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AN EVALUATION OF MODULARIZED SYSTEMS

by

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A THESIS
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ABSTRACT

This study was undertaken to evaluate the innovative project entitled The Development of Demonstration Learning Systems for Home Economics Programs, a project was that developed and implemented by the Faculty of Home Economics at the University of Alberta. The primary objective of the project was to develop and implement innovative teaching/learning systems and related materials in four selected courses. These systems and materials were implemented to better meet the learning needs of students with varying academic and experiential backgrounds, and varying career aspirations than had previous teaching/learning systems and related materials.

The Stake (1967) Model of Evaluation was chosen as the conceptual framework for organizing the evaluation of the project. The Learning Systems Project Evaluation Design was developed to operationalize the evaluation. The orientation of the evaluation was from the empirical-analytic paradigm.

There was a formative evaluation conducted from September 1979 to December 1979 and a summative evaluation conducted from September 1980 to December 1980. In both evaluations data were collected from professors, resource persons, students and other stakeholders regarding the innovative teaching/learning systems and related learning materials that had been implemented in each of the selected courses. In addition, data were also collected to describe the entry characteristics of students; that is, their academic and experiental backgrounds, and career aspirations. For two of the courses, data were also gathered on students' attitudes. A variety of methods were utilized for collecting

data, including questionnaires, one-to-one interviews, focused group interviews and analysis of documents.

The formative evaluation supplied an extensive amount of data that was useful in identifying particular revisions. The revisions focused primarily, although not exclusively, on the related learning materials. The revised innovative teaching/learning systems and revised related materials were then implemented in the regular classes the following year, September 1980.

In September 1980, the summative evaluation was implemented. Changes occurred in some of the courses in addition to changes that had been implemented because of the revisions. These changes included changes in professor and/or resource person(s), changes in class size, and changes in the computer system. However, most of the data sources, instruments and methods that were used for the formative evaluation were used again for the summative evaluation.

An analysis of the data from the summative evaluation showed that the innovative teaching/learning systems and related materials should continue to be implemented in each of the selected courses with certain recommendations suggested to be used in revisions. It was also recommended that evaluation procedures be ongoing and that revisions be continued since innovative teaching/learning systems require time and opportunity before the full benefits can be realized.

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EVALUATION OF THE INNOVATIVE PROJECT
"THE DEVELOPMENT OF DEMONSTRATION LEARNING SYSTEMS FOR HOME ECONOMICS PROGRAMS"

CHAPTER 1

REVIEW OF LITERATURE IN RELATED AREAS

INTRODUCTION

The research presented in this dissertation is an evaluation study of the innovative project entitled The Development of Demonstration Learning Systems for Home Economics Programs. The project was developed and implemented by the Faculty of Home Economics at the University of Alberta. It was funded by the Innovative Projects Fund of the Learning Systems Branch of Alberta Advanced Education and Manpower

The primary objective of the project in a summary statement, was to develop and implement innovative teaching/learning systems with related learning materials that would better facilitate learning among students of varying academic and experiential backgrounds, and varying career aspirations. Participating students were enrolled in the following courses: Clothing and Textiles 309/310, Family Studies 440, Family Studies 444, and Foods and Nutrition 325/326. The teaching/learning systems that were developed and implemented were based on a modularized approach to teaching/learning and each of the courses implemented some degree of modularization. A secondary objective of the project was to serve to introduce the concept and utility of innovative teaching/learning systems to the Faculty of Home Economics and to promote the sharing of the related materials that had been developed for the teaching/learning systems during the project. In addition, it was planned that the project materials would be shared with sister institutions. A more detailed description of the project is presented in Chapter 2, The Setting for the Evaluation.

A review of the literature in four related areas was conducted to identify contributions for the evaluation design of the project. The four related areas were program evaluation, criteria for evaluating post-secondary instructional effectiveness, personalized systems of instruction and computer-assisted instruction.

PROGRAM EVALUATION

Introduction

This section presents a review of the literature on program evaluation in three parts. The first part discusses the development of program evaluation and the second part presents a set of criteria that the literature on program evaluation has identified for consideration when designing an evaluation. The last and third part lists the procedure that the literature on program evaluation has identified for consideration when designing an evaluation. Information from each of these parts made a contribution to the evaluation design of the project, The Development of Demonstration Learning Systems for Home Economics

Programs. In addition, these parts present information for understanding and interpreting an evaluation study.

Development of Program Evaluation

The modern history of the more formal type of educational evaluation, which centers on program evaluation, has its beginnings in the development of standardized testing in the schools in the early 1900's. In the 1930's, two developments occurred which have had a continuing impact on evaluation practices. The first development was Tyler and Smith's (reported in 1942) Eight Year Study, which included a variety of measures to determine the attainment of educational objectives. The second development was the resurgence of accreditation. Five years later, in 1947, the Educational Testing Service was established in the U.S.A. and it became an influential force in evaluation. In the late 1950's and early 1960's, the further refinement of the concept of performance objectives by Bloom (1956) and Krathwohl (1964) had significant impact upon educational evaluation. However, it was the major curricular changes demanded in the Elementary and Secondary Education Act (1965) in the post-Sputnik years followed by the increased federal fundings, that resulted in the growing trend of evaluation as a means for examining new curricula as well as providing accountability for increased funding. It is in this context that a flurry of activity in the area of evaluation theory took place in the late 1960's and 1970's.

Some of the earlier activities that gained considerable attention and resources were those of defining evaluation and developing accompanying models or frameworks for implementing evaluation studies. Initially there were several attempts to define evaluation in the realm of disciplined inquiry so that evaluation would be viewed as a respectable discipline (Cronbach and Suppes, 1969; Thorndike and Hagen, 1969; Glass and Worthern, 1971; and Worthern and Sanders, 1973). Evaluations conducted within this realm were respected as being rigorous and scientific. However, when practising evaluators began examining the impact of these "scientific" evaluations, they found that the information generated from the evaluation had very limited implementation in a large number of studies. Obviously, the scientific definition of evaluation was not satisfactory for all studies.

As a result, there were other attempts to broaden the definition of evaluation beyond the scientific realm. Several evaluators were responsible for making contributions. For example, Apple et al (1974) offered approaches such as secondary evaluations and naturalistic evaluations, among others, that they thought would make evaluations more responsive and sophisticated. They also exposed and challenged the limited conceptual and historical insights in the evaluation field. Stake (1975) encouraged evaluations to be responsive, and he described responsiveness as fixing on concerns and meanings held by key constituencies. Patton (1975) offered alternative evaluation research paradigms to the scientific paradigm. The alternative paradigm emphasized qualitative methodology. Similar to Patton, Willis (1978) provided strong support for the use of qualitative methodology in evaluation studies. Hamilton et al (1977) broadened the definition of evaluation describing evaluation as illuminative. The primary concern in illuminative evaluation is with description and interpretation. Guba and Lincoln (1981) stress that evaluation should be responsive and that the naturalistic method of inquiry results in responsive evaluation.

The variety of definitions of evaluation produced an array of evaluation frameworks or models suggesting particular methodologies for implementing evaluation studies. As Gephart pointed out in 1977, there are over thirty models of evaluation in the evaluation literature. House (1977) attempted to classify some of the models and developed a taxonomy of eight categories. Figure 1 is an adaptation of House's taxonomy with Stake, 1967, added to the decision-making category. However, it must be remembered that House's taxonomy is not exhaustive. It should also be noted that Anderson and Ball (1978:3) proposed that most practicing evaluators subscribe to Scriven's (1967) two purposes of evaluation. According to Scriven, one purpose of evaluation is for formative reasons or assessment, while the program is in operation, to provide feedback that will be used for improving the product. The other purpose is for summative reasons in that evaluation assesses the overall effectiveness of a program and determines its utilization outside of its developing agency.

The wide array of definitions of evaluation with accompanying frameworks and methodologies is still extant. Many evaluators have become frustrated and discouraged by the ensuing number of models. Stake (1981:83,84) suggests that the ensuing models should be called approaches or persuasions because they are only guides and not prescriptions. They are not full methodological replacements and a "good evaluation study depends on many things a model fails to indicate." Beyond Stake's

Model	Proponents	Major Audiences	Assumes Consensus on	Methodology	Outcome	Typical Questions
System Analysis	Rivlin	Economists, managers	Goals; known cause & effect; quantified variables.	PPBS; linear programming; planned variation; cost benefit analysis.	Efficiency	Are the expected effects achieved? Can the effects be achieved more economically? What are the most efficient programs?
Behavioral Objectives	Tyler Popham	Mangers, psychologists	Prespectified objectives; quantified outcome variables	Behavioral Objectives; achievement tests	Productivity; accountability	Are the students achieving the objectives? Is the teacher producing?
Decision Making	Stufflebeam, Alkin Stake (1967)	Decision-makers, esp. administrators	General goals; criteria	Surveys, questionnaires, interviews; natural variation	Effectiveness; quality control	Is the program effective? What parts are effective?
Goal Free	Scriven	Consumers	Consequences; criteria	Bias control; logical analysis; modus operandi	Consumer choice; social utility	What are all the effects?
Art Criticism	Eisner Keely	Connoisseurs Consumers	Critics, standards	Critical review	Improved Standards	Would a critic approve this program?
Accreditation	North Central Association	Teachers, public	Criteria, panel, procedures	Review by panel; self study	Professional acceptance	How would professionals rate this program?
Adversary	Owens, Levine, Wolf	Jury	Procedures and judges	Quasi-legal procedures	Resolution	What are the arguments for and against the Program?
Transaction	Stake, Smith MacDonald, Parlett Hamilton	Client Practitioners	Negotiations; activities	Case studies, interviews, observations	Understanding; diversity	What does the program look like to different People?

Figure 1 A Taxonomy of Evaluation Models

(Reproduced from House, E. Assumptions Underlying Evaluation Models, 1977) suggestion, however, there still exists the problem of integrating the vast number of evaluation models into an effective whole.

One approach that seems appropriate was developed by Aoki (1977). This approach considers the underlying perspective of the evaluator in selecting a definition of evaluation and the accompaying model. Aoki (1977) suggests that Habermas' framework of empirical-analytic, situational interpretive and critical theoretic be employed when examining one's definition of evaluation and choosing an accompanying methodology. The empirical-analytic paradigm involves an ends-means interpretation of the evaluation. The situational interpretive paradigm stresses the uncovering of the relevance and meaning which a program has for all the various groups involved. The third and last paradigm, the critical theoretic, focuses on uncovering foundations such as intents, assumptions and beliefs, among others. Aoki argues that the combined use of all three paradigms, will make an evaluation more powerful by providing a broad organizational structure for the study. Appropriate models and/or methodologies can then be selected from the literature to make each paradigm operative specifically to the particular evaluation study.

This brief review of the literature on program evaluation highlights the diversity of ideas that are extant in the field of evaluation. This diversity amounts to an overwhelming amount of information that has to be considered when conducting an evaluation study.

Criteria for Evaluations

Several writers (Grobman, 1970; Franklin and Thrasher, 1976; Stake, 1976; Rutman, 1977; Anderson and Ball, 1978; and Morris and Fitz-Gibbon, 1978) suggested criteria that should be considered when designing an evaluation. The combined efforts of these writers resulted in a list of six considerations. These six considerations are:

1. the definition, objectives, and purpose of the evaluation (Grobman, 1970; Franklin and Trasher, 1976; Stake, 1976; Rutman, 1977; Anderson and Ball, 1978; and Morris and Fitz-Gibbon, 1978)
2. the evaluator's role (internal and external), values, and purpose (Grobman, 1979; Franklin and Trasher, 1976; Stake, 1976: Anderson and Ball, 1978; and Morris and Fitz-Gibbon, 1978)
3. the use of the results of the evaluation (Grobman, 1970; Franklin and Trasher, 1976; Stake, 1976; and Morris and Fitz-Biggon, 1978)
4. the resources available (Grobman, 1970; Franklin and Trasher, 1976; Stake, 1976; Anderson and Ball, 1978; and Morris and Fitz-Gibbon, 1978)
5. the availability and sources of data collection (Grobman, 1970; Franklin and Thrasher, 1976; Stake, 1976; Anderson and Ball, 1978; and Morris and Fitz-Gibbon, 1978)
6. the reporting procedures of the results of the evaluation study (Grobman, 1970; Stake, 1976; Anderson and Ball, 1978; and Morris and Fitz-Gibbon, 1978)

Procedure for Evaluations

There seems to be widespread agreement in the literature on the procedures of conducting evaluations (Grobman, 1970; Franklin and Thrasher, 1976; Stake, 1976; Rutman, 1977; Anderson and Ball, 1978;

Morris and Fitz-Gibbon, 1978). The procedures that have been commonly identified can be divided into six steps. These six steps are:

1. formulate credible evaluation questions that:
    a. conduct a needs assessment
    b. help the program run smoothly
    c. decide on the program's fate
2. select an evaluation model and/or construct an evaluation model
3. plan data collection
4. collect evaluation data
5. plan and conduct data analyses
6. report evaluation information
7. design a management system for the evaluatio

Conclusion

The literature on program evaluation reviewed in this section has contributed to the evaluation design of the project The Development of Demonstration Learning Systems for Home Economics Programs. It has also presented background information for understanding and intepreting an evaluation study.

CRITERIA FOR EVALUATING POST SECONDARY INSTRUCTIONAL EFFECTIVENESS

McKeachie and Kulik (1975) stated that teaching effectiveness has become one of the most controversial issues in higher education, as pressures of student riots have been followed by financial pressures. Contributing to this controversy was a lack of conclusive research evidence that defined and described effective teaching in higher education (Kulik and Kulik, 1979). In spite of the nature of the topic, numerous authors have addressed it. A brief summary of some of the more comprehensive articles are discussed in an attempt to assemble the variables that have been identified as measures of effective teaching in higher education. Because the project, The Development of Demonstration Learning Systems for Home Economics Programs, was concerned with innovative teaching/learning systems in a postsecondary institution, the criteria identified for evaluating the instruction in higher education were deemed to be appropriate and applicable to the evaluation.

Lehmann (in Dressel and Associates, 1961) identified seven approaches for evaluating teaching in higher education. In his article, he referred to teaching as instruction. The first method Lehmann mentioned for evaluating instruction was the use of standardized student achievement tests. Secondly, he advocated that instruction might be evaluated by comparing the extent to which accepted instructional functions are present in the instructional process. He identified six functions of instruction. They were: to motivate the student; to demonstrate to the student just what is expected of him; to select appropriate practice tasks which are extensive and meaningful; to provide the student with some satisfaction in his progress; to organize the material so the cumulative significance of learning is readily apparent to the student; and to provide the learner with high standards of performance and means for judging his performance. The third approach to evaluating instruction in higher education was to obtain student ratings on attitudes toward the disciplining, instructor or course. The remaining approaches suggested by Lehmann are: the number of students who choose faculty member X as their academic advisor or major professor; the number of students who try to enroll in faculty member X's section; and a correlation between grades and ability. In addition, he mentioned that faculty peer ratings are another possibility. Lehmann cautioned that each approach has obvious difficulties if overemphasized as the criterion of effective instruction.

In 1975, McKeachie and Kulik coauthored an article on effective college teaching. They described teaching effectiveness as student learning and proceeded with a discussion of three variables that determined student learning. The variables were instructional methods, student characteristics, and microinstructional strategies. Microinstructional strategies included structure, content and information-processing procedures such as objectives, aids, sequencing, feedback and grading system.

The following year 1976, Dressel's book entitled Handbook of Academic Evaluation, was published. In the chapter on faculty, Dressel (1976) identified eight criteria for evaluating the effectiveness of instruction. The eight criteria were: student evaluations; student achievement scores; student accessibility; environmental factors on the instructional setting; the content of instruction; the process of instruction; the student appraisal methods; and the relationship of instruction to the global educational process. Dressel (1976) cautioned, as did Lehmann (1961), that each of the criteria is useful but none is sufficient in and of itself. Dressel (1976) also quoted a comment by Erickson and Kulik. They (in Dressel, 1976: 352) pointed out that care must be taken to establish the criteria appropriate for each instructional setting and that the faculty member must be judged within this context.

In 1977, Briggs edited a book entitled Instructional Design Principles and Applications. In this book, Dick discussed formative and summative evaluation. He identified five variables that should be included in evaluating studies of instructional developments in higher education. The variables were: performance scores, learning time, attitude questionnaires, instruction methodology and process, and comments by subject matter and teaching experts. Dick (in Briggs, 1977) discussed how the five variables would be utilized in formative and summative evaluations.

One of the most recent articles that discussed postsecondary teaching effectiveness is "College Teaching" by Kulik and Kulik (in Peterson and Walberg, 1979). In this article, Kulik and Kulik focussed attention on the conditions of learning that research has identified as leading to increased learning. Three conditions seemed to be especially important. These conditions were: that students move through course material step by step, with an examination of proficiency at each step; that students receive immediate feedback on each examination; and that students must restudy material each time an examination shows that they have not achieved proficiency. If a faculty member instituted these three conditions in a course, the results would be increased student learning.

An analysis of the information presented on postsecondary teaching effectiveness revealed some insights and implications for an evaluation of the project, The Development of Demonstration Learning Systems for

Home Economics Programs, since the project was concerned with implementing innovative teaching/learning systems in a postsecondary institution. Several of the variables were identified by more than one author.

Those variables are listed below accompanied by the respective authors:

1. Student performance or achievement scores (Lehmann in Dressel and Associates, 1961; McKeachie and Kulik, 1975; Dressel, 1976; and Dick in Briggs, 1977).
2. Student attitudes or ratings (Lehmann in Dressel and Associates, 1961; McKeachie and Kulik, 1975; Dressel, 1976; and Dick in Briggs, 1977).
3. Course content, process and procedure variables of teaching (Lehmann in Dressel and Associates, 1961; McKeachie and Kulik, 1975; Dressel, 1976; Dick in Briggs, 1977; and Kulik and Kulik, 1979).

Because the variables noted above were reiterated by several writers who have addressed teaching effectiveness in postsecondary education, they were considered for the evaluation of The Development of Demonstration Learning Systems for Home Economics Programs.

INSTRUCTIONAL SYSTEMS

The innovative teaching/learning systems that were developed and implemented during the project, The Development of Demonstration Learning Systems for Home Economics Programs, and that are being evaluated in this study were based on a learning system approach. That is, Kozma's definition of instructional systems had been adopted for the project. Kozma (1979:12) represented the complex, unique and interdependent nature of the instructional situation by a system. He defined a system, according to Banathy (1968) as a collection of inter-related parts or elements which can be conceptually separated from its surroundings. Kozma included six elements in a learning system. These elements were: the instructor, the learner, the subject matter content, the medium, evaluation, and the social and physical environment.

The teaching/learning systems included in the project were characterized by a modularized approach. The modularized approach served as an innovative form for presenting subject matter content. The modularized approach according to Cross (1976) is a system of teaching/learning that consists of learning modules which are self-contained units with well-defined objectives, usually consisting of learning materials, a sequence of learning activities and provisions for evaluation. Cross and others (Goldschmid and Goldschmid, 1972; Donald, 1973; Hursch, 1976; and Schalock, 1976) have described the modularized approach as a type of learning system that promotes individualized learning.

Therefore, the research on personalized systems of instruction (PSI) was reviewed for the purpose of choosing variables for the evaluation of this study.

Kulik, Jaksa, and Kulik (1978) conducted a recent, extensive review of more than fifty research studies on PSI. They noted that four variables were studied by PSI researchers in analyzing the outcomes of PSI. The four outcomes were: level of student achievement at the end of the course; level of student satisfaction with instruction; amount of student time required to complete instruction; and proportion of students completing instruction. In a 1979 article, Kulik and Kulik added one more outcome that had been studied by PSI researchers. That outcome is retention and transfer by students (Kulik and Kulik, 1978:80). It seemed appropriate that the above five variables should be considered as variables in the evaluation for this study.

In addition to including the modularized component, Clothing and Textiles 309, one of the courses included in the project that is being evaluated in this study, also included a computer managed learning component (CML). The CML component was incorporated for testing and student progress monitoring. The research on CML emphasized that the benefit of CML exists mainly for the instructor. The benefit for the student is only insofar as CML enables the instructor to improve the quality of education for the student. However, most CML systems provide immediate feedback in students' testing situation which research indicated does improve learning.

In Foods and Nutrition 325/326 one of the modules included a computer-assisted instruction (CAI) component for the PLATO system. Even though most of the research on CAI examine courses that used the computer for total and direct instruction of students, some insight was gleaned from the outcome measures that were examined in that research. In a recent examination of over forty research studies on CAI, Kulik and Jaksa (1977) reviewed the studies that provided information on the following three outcomes: student end-of-course achievement; student rentention and transfer; and student time to complete learning. These three outcome measures were the same as the three that were noted in the PSI research.

This recurrence emphasized that these variables should appear in the evaluation of this study.

CONCLUSION

The review of the literature in three areas: program evaluation, criteria for evaluating postsecondary instructional effectiveness and instructional systems, made a contribution to the development of the design for the evaluation of the project, The Development of Demonstration Learning Systems for Home Economics Programs. Several variables recurred in the literature. The repetition of these variables warranted consideration for including them in the evaluation. Furthermore, the review of the literature in program evaluation provided a repertoire of evaluation models or frameworks and related methodologies to be considered in designing the evaluation for this study.

CHAPTER 2

THE SETTING FOR THE EVALUATION

DESCRIPTION OF THE PROJECT

The title of the project Development of Demonstration Learning Systems for Home Economics Programs was later condensed to the Learning Systems Project and this condensed title will be used in the remainder of this presentation. The Learning Systems Project proposal was submitted to the Innovative Projects Fund of the Learning Systems Branch of Alberta Advanced Education and Manpower in the fall of 1978 and an Innovative Projects Grant was received by the Faculty of Home Economics in early 1979. The project funds were budgeted for until February 27, 1981. Officially, on that date, the formal organizational structure of the Learning Systems Project terminated.

The project was initiated, researched and developed by the following three professors in the Faculty of Home Economics: Dr. Elizabeth Crown, Dr. Elizabeth Donald and Dr. Dianne Kieren. These three professors were involved in teaching courses that had special conditions which demanded innovative teaching/learning systems. The courses had very high enrollments and/or students with varying academic and experiential backgrounds, and varying career aspirations. Because the professors had several concerns, including a concern that they should offer courses that would meet individual students' needs, they sought to develop and implement teaching/learning systems through the Learning Systems Project that would be alternatives to the ones they were using. The project was designed to include five different phases which were:

Pre-planning phase
Phase I - Clarification Phase
Phase II - Development Phase
Phase III - Implementation
Phase IV - Summative Evaluation

The purpose of the pre-planning phase was to ascertain the general feasibility of formulating a learning systems project in the Faculty of Home Economics. A needs assessment was conducted which included data collection from different sources. The project team was established, common learning problems in the Faculty were identified and the four phases of the project were developed. The project team consisted of the three project leaders, previously named; three curricular associates for each one of the three areas of specialization in the Faculty: Clothing and Textiles, Family Studies and Foods and Nutrition; a project director and an evaluator. The three curricular associates were hired to develop related learning materials for the innovative teaching/learning systems. The project director was hired to manage the project and the evaluator was commissioned to design and implement formative and summative evaluation procedures for the project.

Phase I, the clarification phase, elaborated upon and priorized the needs identified during the pre-planning phase in each of the three divisions in the Faculty of Home Economics: Clothing and Textiles, Family Studies and Foods and Nutrition. The clarification procedure identified and/or confirmed a selection of courses within the three divisions that were most appropriate for the development of innovative teaching/learning systems. The courses that were selected were:

Clothing and Textiles 309/310
Family Studies 440
Family Studies 444
Foods and Nutrition 325/326

Specific objectives were established for each of the selected courses. Phase I concluded with the project proceeding as proposed because the findings suggested that the proposed solutions could meet the identified needs and that appropriate resources, both human and material, were available for implementing the proposed solutions.

In Phase II, the development phase, teaching/learning systems and related materials were identified and/or developed for each of the selected courses: Clothing and Textiles 309/310, Family Studies 440, Family Studies 444, and Foods and Nutrition 325/326. The innovative teaching/learning systems and the related learning materials that were identified and/or developed were primarily modularized systems. The modularized system was selected because research had shown that modularized systems were efficient, effective and appropriate for meeting the needs of students with varying academic and experiential backgrounds and varying career aspirations. Computer-managed learning (CML) and computer-assisted instruction (CAI) were added to the modularized systems in some of the courses. The degree of modularization implemented in each of the selected courses also varied. Clothing and Textiles 309/310 and

Family Studies 444 were completely modularized. Family Studies 440 had one module implemented and Foods and Nutrition had three modules implemented. In addition, the development phase also included the development of the evaluation design for the Learning Systems Project. The evaluation design included both formative and summative components. Furthermore, the teaching/learning systems and related materials that had been identified and/or developed for the selected courses were pre-tested. The instruments that had been identified and/or developed for the evaluation design of the project were also pre-tested. The data from the pre-tests were used for revision purposes.

In Phase III, the implementation phase, the teaching/learning systems and related materials were implemented in regular classes in each of the selected courses. In addition, a formative evaluation was conducted in each of the selected courses. The results from the formative evaluation provided extensive data that was used in revising the teaching/learning systems and related materials.

In Phase IV, the summative evaluation phase, data was collected that evaluated the revised teaching/learning systems and related materials in each of the selected courses. In addition, recommendations were made regarding the teaching/learning systems and related materials. Furthermore, during the summative evaluation phase data was collected that evaluated the Learning Systems Project overall as a project. The project had also been developed to serve to introduce the concept and utility of innovative teaching/learning systems to the Faculty of Home Economics and to promote the sharing of the related materials that had been developed for the teaching/learning systems that had been implemented during the project, on a faculty-wide basis. In addition, it was planned that the project materials be shared with sister institutions.

The next section of this presentation presents the statement of the problems. The brief description of the Learning Systems Project has been presented to provide a context for understanding and appreciating the problems.

STATEMENT OF THE PROBLEMS

The purpose of this research was to evaluate the Learning Systems Project that was developed and implemented by the Faculty of Home Economics at the University of Alberta. In "Development of Demonstration Learning Systems for Home Economics Programs, a Proposal submitted to Learning Systems Branch, Alberta Advanced Education and Manpower by the Faculty of Home Economics, University of Alberta", seven "criteria for success" of the project had been developed and identified by the three professors (Crown, Donald, Kieren, 1978). Those seven "criteria for success" were:

1. The learning materials successfully achieve objectives.
2. The learning materials are appropriate to students' varied needs.
3. The management system allows students efficient access to learning materials.
4. The management system allows students to meet own needs.
5. Materials prepared are evaluated by sister institutions as having potential for use in their programs.
6. Colleagues indicate a positive attitude toward learning system.

7. Faculty members are involved in a greater exchange of teaching resources and materials.

From these seven "criteria for success", the problems for this research were formulated and divided according to their appropriateness for the formative and summative evaluations. The problems identified for the formative evaluation were:

1. Are the innovative teaching/learning systems meeting the learning needs of students with varying academic performance and experiential backgrounds, and varying career aspirations?
2. Are the related learning materials meeting the learning needs of students with varying academic and varying experiential backgrounds, and varying career aspirations?

The problems identified for the summative evaluation were:

1. Are the innovative teaching learning systems further meeting the learning needs of students with varying academic and experiential backgrounds, and varying career aspirations?
2. Are the related teaching materials further meeting the learning needs of students with varying academic and experiential backgrounds, and varying career aspirations?
3. Has there been increased awareness and utilization of innovative teaching/ learning systems and related materials throughout the Faculty of Home Economics?
4. Have efforts been made to share the innovative teaching/learning systems and related materials with sister institutions?

SIGNIFICANCE OF THE STUDY

Theoretical Significance

The findings from this evaluation study of the Learning Systems Project can make contributions to research in two areas: teaching/learning in higher education, and evaluation. There are no universal conclusions regarding teaching and learning in systems in postsecondary education (Kozma, Belle and Williams, 1978; Kulik and Kulik, 1979). The innovative teaching/learning systems that have been developed and implemented by the innovative project within the Faculty of Home Economics are primarily modularized systems with computer-managed learning (CML) and computer-assisted instruction (CAI) additions in some of the courses. The modularized teaching/learning system is a system of individualized instruction that is quite similar to the personalized system of instruction (Goldschmid and Goldschmidt, 1972: 17, 30). Although there has been extensive support for personalized systems of instruction in postsecondary education (Keller, 1968; Kulik, Jaksa and Kulik, 1978), as mentioned previously, there is no universal agreement regarding any one particular system of teaching/ learning. Therefore, the findings from this study will provide further evidence for consideration regarding personalized systems of instruction in postsecondary education.

In the area of evaluation, considerable attention in recent years has been given to the design and methodology employed in evaluation studies (Gephart, 1977; Stufflebeam et al., 1979). There is also an evident lack

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of consensus regarding the variables that should be included in a conceptual framework for an evaluation and following from this situation, an equivalent lack of consensus regarding the procedures that are emloyed in evaluation studies. This situation is the result of the recent proliferation of writings on evaluation. The content and methodology of this evaluation study could be of assistance in integrating the literature on evaluation, thereby adding clarity to the present confusion.

Practical Significance

Students enrolled in courses offered by the Faculty of Home Economics have varying academic and experiential backgrounds, and varying career aspirations. This situation is the result of two factors. Firstly, Home Economics is a profession which focuses its interest on the family as a total functioning unit. To prepare professionals in Home Economics, a university program has to offer many subject specializations since no one program can meet the broad objectives of training professional Home Economists. The Faculty of Home Economics, at the University of Alberta, offers three undergraduate specializations which are Clothing and Textiles, Family Studies, and Foods and Nutrition. Because of the small size of the Faculty, students in all three programs often take their instruction together in the same classes. In order to meet the learning needs of these students with different program backgrounds, varying academic and experiential backgrounds, and varying career aspirations, an examination of the teaching/learning methods was deemed necessary.

Secondly, the Faculty of Home Economics has increased its service load within the University to 42.6%, 40%, 38% of the total work load in 1977-78, 1978-79 and 1979-80 respectively. Service courses are offered to students from a number of different faculties such as Arts, Business and Commerce, Education, Pharmacy, Physical Education, and Nursing. Students coming from these faculties have varying academic and experiential backgrounds, and varying career aspirations. The Faculty has limited resources to meet the learning needs of students from outside the Faculty of Home Economics. This situation led to an examination of the teaching/learning methods in the service courses. Therefore, innovative teaching/learning systems and related material were developed which, it was believed, would better accommodate the learning needs of students who are enrolled in courses in the Faculty of Home Economics. This study will assess the innovative teaching/learning systems and related materials and determine if they have accommodated the learning needs of students who are enrolled in courses in the Faculty of Home Economics.

CHAPTER 3

CONCEPTUAL FRAMEWORK: STAKE (1967) MODEL

INTRODUCTION

The Stake (1967) Model of evaluation was selected as the conceptual framework for organizing the evaluation of the Learning Systems Project. The writer of this dissertation wishes to acknowledge that in communication with Stake and also in a recent article (Stake:1981), he stated that the so-called Model should be referred to as an "approach" or a "persuasion" but not as a model. However, the evaluation literature frequently refers to the Stake (1967) "Model". In order to maintain consistency with the literature and consistency throughout this dissertation, the term Model will be used. The choice of the Stake (1967) Model, the interpretation and consequent operationalization of it through the Learning Systems Project Evaluation Design provided the organizational structure for the evaluation. For example, the matrices in the Model suggest particular variables and analysis procedures to be considered in an evaluation. These suggestions were seen as necessary and helpful in the initial stages of planning the evaluation design for the Learning Systems Project.

The paradigm, according to Aoki's framework (1977), that was emphasized in the development stages and initial implementation stages of the evaluation, was the empirical-analytic or normative one.

In conclusion, this evaluator's interpretation and operationalization of the Model provided basically an empirical-analytic perspective for the evaluation of the Learning Systems Project.

OVERVIEW OF STAKE (1967) MODEL

The Stake (1967) Model will be presented and discussed. Figure 2 is a reproduction of the Stake Model. The Model emphasizes two essential operations in the evaluation process: description and judgement. Both operations considered three bodies of information. These three sources were the antecedents, transactions and outcomes. The first source was the set of antecedents or entry behaviors, or the "givens". Antecedents were any conditions that existed prior to teaching and learning which may relate to outcomes. The second source was the transactions or processes. They were dynamic whereas antecedents and outcomes are relatively static. The third source was the outcomes. The outcomes were relatively static. The boundaries between the antecedents, transactions and outcomes may not be clear but they do not need to be distinct. According to Stake (1967), the categories should be used to stimulate rather than subdivide data sources. Furthermore, the Model divided the descriptive data into what was intended and what was observed. Stake (1967) suggested that the descriptive data be processed by two principal methods (see Figure 3). The first method was to seek out contingencies among antecedents, transactions and outcomes. Logical contingencies were sought among the intended variables and empirical contingencies were sought among the observed variables. The second method of processing the

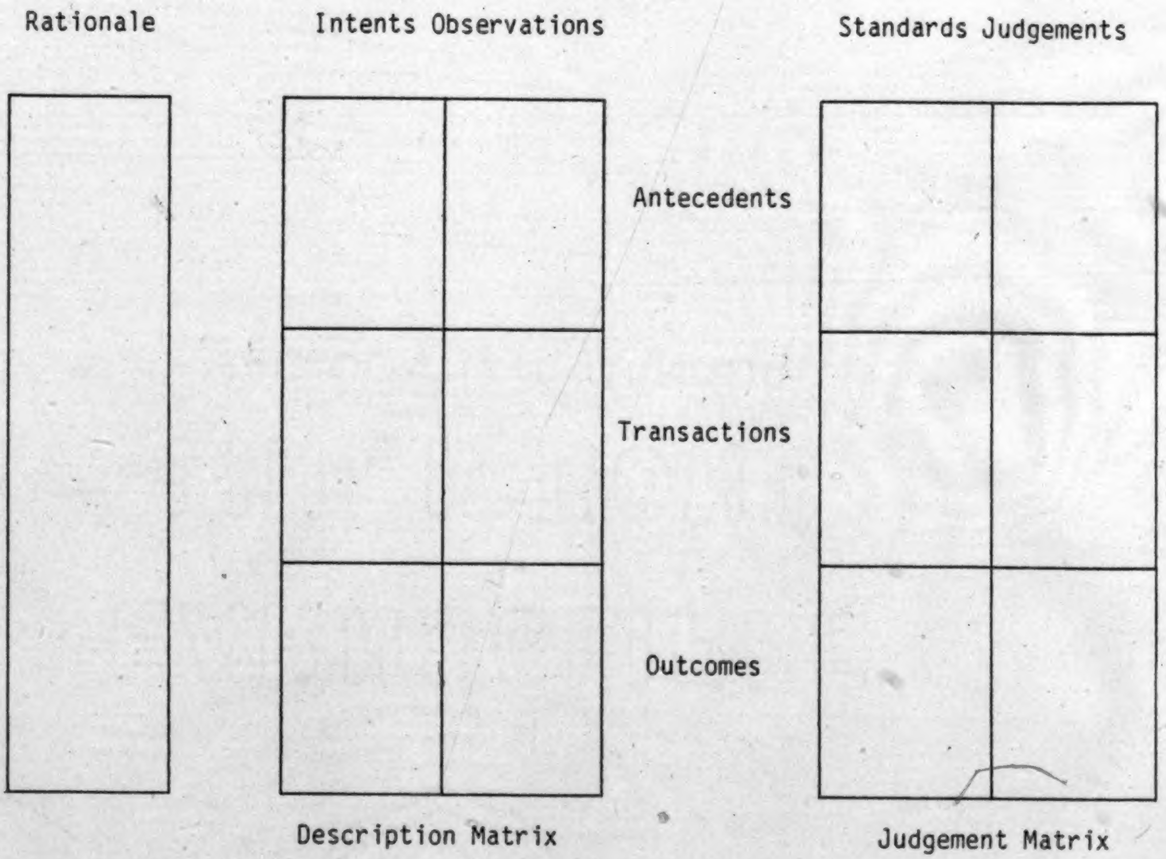
Rationale
Intents Observations
Standards Judgements
Antecedents
Transactions
Outcomes
Description Matrix
Judgement Matrix

Figure 2

STAKE (1967) MODEL
(Reproduced from: Worthen, B. and J. Sanders
Educational Evaluation: Theory and Practice, 1973, p. 113).

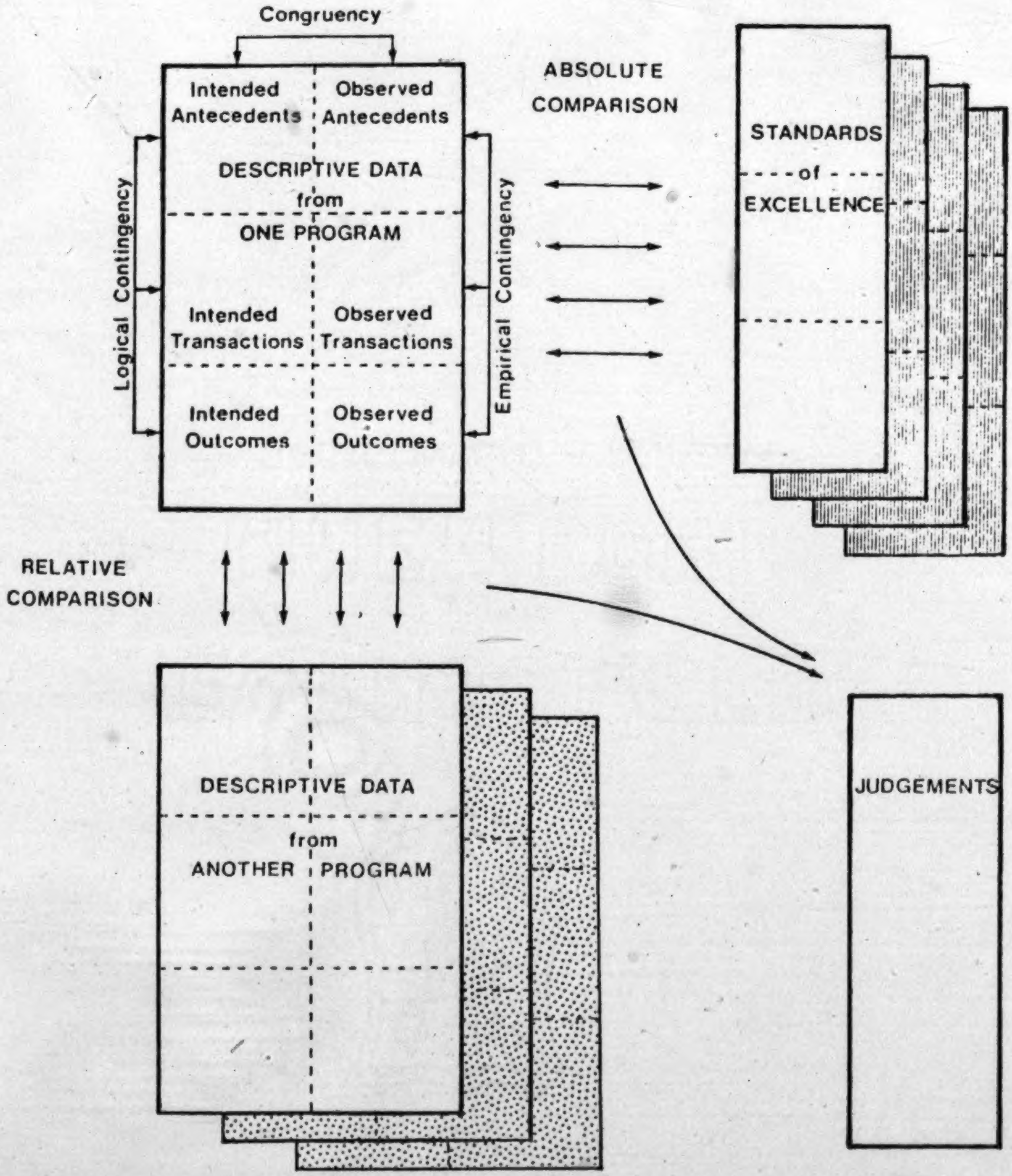
Congruency
Intended Antecedents
Observed Antecedents
DESCRIPTIVE DATA from ONE PROGRAM
Intended Transactions
Observed Transactions
Intended Outcomes
Observed Outcomes
Logical Contingency
Empirical Contingency
ABSOLUTE COMPARISON
STANDARDS of EXCELLENCE
RELATIVE COMPARISON
DESCRIPTIVE DATA from ANOTHER PROGRAM
JUDGEMENTS

Figure 3

STAKE (1967) MODEL
(Reproduced from: Worthen, B. and J. Sanders
Educational Evaluation: Theory and Practice, 1973, p. 117).

descriptive data was to find the congruency between the intended and observed variables.

The judgement operation was the second essential operation for evaluation identified by the Model. As mentioned previously, data for the judgement matrix was collected from three sources: antecedents, transactions and outcomes. In the judgement process, the observed data was compared to a set of standards. These standards could be relative in that a comparison is made with other programs or the standards could be absolute in that they are explicit and quantitative. The judgements were formulated on the comparison between the observations and the standards. Usually, the judgements comprised the evaluation report.

RATIONALE FOR USE OF STAKE (1967) MODEL

The Model was chosen as the conceptual framework for the evaluation of the Learning Systems Project because it was the most useful in assisting the evaluator to organize the considerations that the literature suggested should be accounted for in developing an evaluation design, the considerations that the literature in related areas identified and the problems developed for the evaluation from the Learning Systems Project proposal. For example, the five variables identified for consideration in personalized systems for instruction were: level of student achievement at the end of the course; level of student satisfaction with instruction; amount of student time required to complete instruction, proportion of students completing instruction and student retention and transfer. The literature review of computer-assisted learning identified five variables for consideration. Each of these variables is included in those identified by the search of the literature on personalized system of instruction. The first variable, level of student achievement at the end of the course will be included in the intended outcomes. The second variable, level of student satisfaction will be another intended outcome. The third variable, amount of student time required to complete instruction will be included in intended transactions. The fourth variable, proportion of students completing instruction will be included in intended outcomes. The final variable, student retention and transfer will be included in the intended outcomes.

There were five variables that were identified as being most noteworthy in a literature review of criteria for evaluating postsecondary teaching effectiveness. The five were: student performance or achievement scores, student attitudes, course content, teaching/learning processes and teaching/learning procedures. The first variable, student performance or achievement, has been previously considered in the intended outcomes. Similiarly, student attitudes have been mentioned previously, and are included in intended outcomes. Course content will be included in the intended antecedents and the intended outcomes. Both teaching/learning processes and teaching/learning procedures will be included in intended outcomes. Thus, the evaluator was able to accommodate and organize all the variables that were identified as being most noteworthy in the literature reviews by applying the Model.

Furthermore, the evaluator's application of the Model also assisted in organizing the objectives that were developed for the formative and summative evaluations. The objectives for the formative evaluation were:

1.1 to determine if the innovative teaching/learning systems were meeting the learning needs of students with varying academic and experiential backgrounds, and varying career aspirations.

1.2 to determine if the related learning materials were meeting the learning needs of students with varying academic and experiential backgrounds, and varying career aspirations.

The objectives for the summative evaluation were:

2.1 to determine if the innovative teaching/learning systems have further met the learning needs of students with varying academic and experiential backgrounds, and varying career aspirations.

2.2 to determine if the related teaching materials have further met the learning needs of students with varying academic and experiential backgrounds, and varying career aspirations.

2.3 to determine if there has been increased awareness and utilization of innovative teaching/learning systems and related materials throughout the Faculty of Home Economics.

2.4 to determine if the innovative teaching/learning systems and related materials have been shared with sister institutions.

The determination of the teaching/learning systems and the related materials in meeting the learning needs of students as stated in objectives 1.1, 1.2, 2.1 and 2.2, were included in intended antecedents, transactions and outcomes. For example, the entry behavior of the students did require observation, in addition to the students interactions with the systems and the materials. In addition, effectiveness and efficiency implied certain outcomes, hence the inclusion of these variables under intended outcomes. Objective 2.3 pertained to the diffusion of the concept and utility of innovative teaching/learning systems and related materials throughout the Faculty of Home Economics. This objective suggested that there would be variables under antecedents, transactions and outcomes that were appropriate for observation. Similiarly, the diffusion of the systems and related materials to sister institutions implied that there would be intended antecedents, transactions and outcomes.

After extensive examination of the considerations that should be accounted for in developing an evaluation design, of the literature in related areas and of the objectives developed for the evaluation of the Learning Systems Project, the Model was the framework that was selected to organize the evaluation of the Learning Systems Project.

LEARNING SYSTEMS PROJECT EVALUATION DESIGN

Although the evaluation design of the Learning Systems Project did use the Model as an organizer, a further format was developed especially for the project. This format is shown in Figure 4, the Learning Systems Project Evaluation Design, which will be referred to as the LSPE Design. The LSPE Design was developed after discussions with project leaders, the funding agency for the Learning Systems Project, and other evaluators. It was used in the evaluation to show and explain how the Model had been interpreted and consequently operationalized.

The LSPE Design considered variables from three sources: antecedents, transactions and outcomes. The first source was the antecedents or entry behaviors or the givens. Antecedents were limited to include student characteristics that existed prior to the implementation of the Learning Systems Project. These variables were selected because of their potential influence on outcomes. Some of the

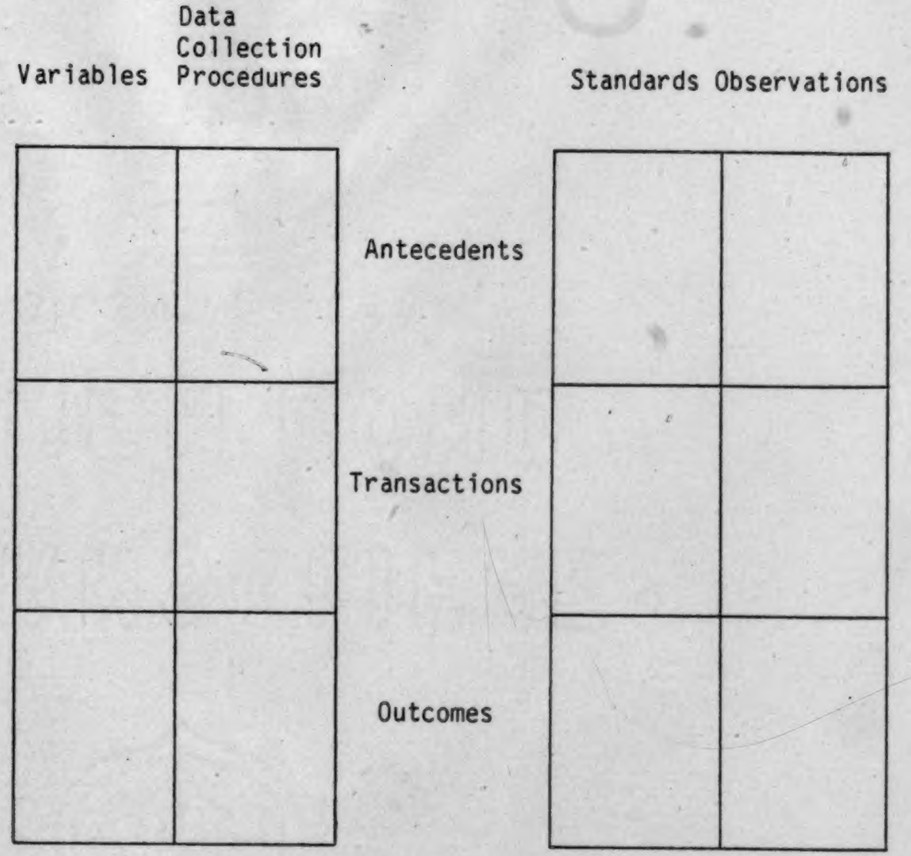
Variables
Data Collection Procedures
Standards
Observations
Antecedents
Transactions
Outcomes

Figure 4

LEARNING SYSTEMS PROJECT EVALUATION DESIGN
(LSPE DESIGN)
(Adapted from: Worthen, B. and J. Sanders
Educational Evaluation: Theory and Practice, 1973, p. 117).

antecedent variables that were identified were: student academic background, student experiential background, student level of competence and student attitudes. The second source of variables was the transactions or processes. This source included the teaching/learning delivery methods of the Learning Systems Project and the opportunities provided for student-student and student-professor interaction by the teaching/learning delivery methods. For example, the process or implementation of the modularized method and the CML system were both considered in this source along with student-student and student-professor interactions. The third and last source was the outcomes. The variables included in this category were the outcomes that had been identified for the Learning Systems Project in relation to the learning materials that accompanied the teaching/learning systems and in relation to student characteristics. For example, an assessment of the modules along with student attitudes and student competences were included.

Furthermore, the LSPE Design included the data collection procedures and also the standards for the antecedent, transaction and outcome variables. Finally, the LSPE Design incorporated the observations that were collected by the data collection procedures for the different variables. The observations described the discrepancies or congruencies between the standards and observations based on an analysis of the data that was collected.

Although judgements were not included in the matrices of the LSPE Design, it was decided that in the final analysis the evaluator would make judgements based on the comparison between the standards and observations. These were to be reported outside the matrix and following the judgements, recommendations were to be made by the evaluator.

The LSPE Design was developed specifically for the evaluation of the Learning Systems Project. It was intended that the design would show and explain how the Model had been interpreted and consequently operationalized.

CHAPTER 4

METHODOLOGY

INTRODUCTION

The empirical-analytic perspective was chosen as the primary perspective for this evaluation project. Therefore the methodology of the evaluation was that which characterizes preordinate evaluation. That is, the methods aimed to be objective and quantitative.

Although the methodology of the evaluation of the Learning Systems Project was basically a preordinate perspective, the development process and reporting procedures tended to be somewhat responsive. These were responsive in that the evaluator included the project leaders and the funding agency in the development of the evaluation. Furthermore, the reporting procedures included informal sessions that evolved as information was analyzed, in addition to the formal written reporting sessions.

A detailed methodological framework for the development, implementation and analysis of the Stake (1967) Model as the conceptual framework for the Learning Systems Project was explicit in the evaluation designs that were based on the LSPE Design. Evaluation designs for both formative and summative purposes were developed for each of the selected courses: Clothing and Textiles 309/310, Family Studies 440, Family Studies 444, and Foods and Nutrition 325/326. Because Clothing and

Textiles 310 was not completed in time to be reported in this study, it has not been included. The formative evaluation designs were implemented from September 1979 to April 1980. A detailed description and account of the designs and results for the following courses: Clothing and Textiles 309, Family Studies 440, Family Studies 444, and Foods and Nutrition 325/326 are reported in Chapter 5, Formative Evaluation.

Similiar summative evaluation designs were produced for each of the same selected courses noted above. These designs were implemented from September 1980 to April 1981. A detailed description and account of these designs and results are reported in Chapter 6, Summative Evaluation, of this dissertation. Therefore, there were two similiar evaluation designs implemented for each of the following courses: Clothing and Textiles 309, Family Studies 440, Family Studies 444, and Foods and Nutrition 325/326. The second evaluation design, the summative evaluation for each of the selected courses was implemented one year after the first or formative design.

Furthermore, there was also a summative evaluation design developed and implemented for the overall project under the heading of project evaluation. There was only a summative evaluation design developed for the project and the majority of the design was implemented in April of 1980. A detailed description and account of this design and the results are reported in Chapter 7, Research Discussion of this dissertation.

In addition, in Chapter 7, Research Discussion, summary statements of the results of the two evaluations are presented in designs for the selected courses and for the overall project. Following the presentation of summary statements conclusions are discussed for each course and the overall project. Judgements and recommendations have been also included.

DEVELOPMENT OF EVALUATION DESIGNS

As previously discussed in various sections, the Stake (1967) Model was selected as the conceptual framework for the evaluation of the Learning Systems Project. The detailed LSPE Designs for the selected courses and for the overall project were developed from the problem statements that were discussed in Chapter 2, The Setting for the Evaluation. These problem statements were divided into formative and summative problem statements. The problem statements developed for the formative evaluation were:

1. Are the innovative teaching/learning systems meeting the learning needs of students with varying academic and experiential backgrounds, and varying career aspirations?
2. Are the related learning materials meeting the learning needs of students with varying academic and experiential backgrounds, and varying career aspirations?

The problem statements for the summative evaluation were:

1. Are the innovative teaching/learning systems further meeting the needs of students with varying academic and experiential backgrounds, and varying career aspirations?
2. Are the related teaching materials further meeting the needs of students with varying academic and experiential backgrounds, and varying career aspirations?
3. Is there increased awareness and utilization of innovative teaching/learning systems and related materials throughout the Faculty of Home Economics?

4. Have the innovative teaching/learning systems and related materials been shared with sister institutions?

The problem statements, that were the basis for the development of the evaluation designs, had been developed from seven "criteria for success" that were outlined in DEVELOPMENT OF DEMONSTRATION LEARNING SYSTEMS FOR HOME ECONOMICS PROGRAMS, a Proposal submitted to Learning Systems Branch, Alberta Advanced Education and Manpower by the Faculty of Home Economics, University of Alberta (1978: 10). These seven "criteria for success" were:

1. The learning materials successfully achieve objectives.
2. The learning materials are appropriate to students' varied needs.
3. The management system allows students efficient access to learning materials.
4. The management system allows students to meet own needs.
5. Materials prepared are evaluated by sister institutions as having potential for use in their programs.
6. Colleagues indicate a positive attitude toward learning system.
7. Faculty members are involved in a greater exchange of teaching resources and materials (Crown, Donald and Kieren, 1978: 10).

The problem statements for the formative evaluation and the first two problem statements for the summative evaluation were developed from the first four "criteria for success". The last two problem statements for the summative evaluation were developed from the last three "criteria for success".

The formative evaluation designs for the selected courses: Clothing and Textiles 309, Family Studies 440, Family Studies 444, and Foods and

Nutrition 325/326 were developed from the formative problem statements, as they applied to each of the selected courses. Similarily, the summative evaluation designs for the selected courses were developed from the first two problem statements, (categorized as summative evaluation) as they applied to each of the selected courses. The summative evaluation design for the overall project was developed from the last three problem statements, that had been categorized as summative evaluation, as they applied to the overall project. A detailed description and account of the formative evaluation designs are presented in Chapter 5, Formative Evaluation, and a detailed description and account of the summative evaluation designs are presented in Chapter 6, Summative Evaluation.

DATA SOURCES

The evaluation designs that are presented in Chapter 5, Formative Evaluation, and Chapter 6, Summative Evaluation, provide detailed information on data sources for the evaluation of the Learning Systems Project. The evaluation designs presented in these chapters were based on the LPSE Design. In the LPSE Design, an examination of the variables column will identify the sources of data. Therefore, an examination of the variables column in each of the evaluation designs for the selected courses would provide a detailed list of the sources of data for the evaluation of the Learning Systems Project.

Although a detailed list of the sources of data for the evaluation of the project will not be provided, some general comments follow regarding the sources of data for this evaluation. For the evaluation designs of each of the selected courses, data were collected from the student population, the professors teaching the courses and the resource persons assisting with the course. Process data or interactions with the teaching/learning systems and related learning materials were also included as sources. Furthermore, data were collected from student and professor records and files.

For the evaluation of the overall project, data were collected from faculty members, project leaders, project directors, records and files. In addition, process data or interations with the Learning Systems Project were also included as data sources.

INSTRUMENTS

Introduction

The evaluation designs that are presented in Chapter 5, Formative Evaluation, and Chapter 6, Summative Evaluation provide information on all of the instruments used for the evaluation of the Learning Systems Project. The evaluation designs presented in these chapters were based on the LSPE Design. An examination of the observations columns in each of the evaluation designs for the Learning Systems Project would provide a detailed list of appendices that correspond to the instruments used in the evaluation of the Learning Systems Project. All of these appendices are included in the Appendix section of this dissertation.

Although a detailed account of the instruments used in the evaluation of the project will not be provided, some general comments will be made in this section regarding the instruments used in this evaluation.

The instruments were designed by the evaluator in consultation with the project leaders and other personnel, who were external to the project and who had expertise in instrument development.

Design

The instruments that were used in this study included both information and opinion items of three general types. One type of item had pre-defined, Likert-type responses. A second type of item required the respondents to present, in their own words, their opinions, comments or descriptive information. The third and last type of item was a combination of the two types described above. These contained pre-defined response categories of the Likert type, but, in addition asked the respondent to comment, provide further information, deal with other information and so on.

Reliability and Validity

As far as reliability and validity issues are concerned, the contention of the evaluator is that the instruments possess face validity and that since each item is treated as a separate independent scale, the usually applied measures of scale validity and reliability are inappropriate for use in this study.

Furthermore, all of the instruments were pretested after they had been developed. There were minor revisions made and the instruments were pretested again before implementation on a full scale basis. In addition, there were also some revisions made to the instruments after their use in the first or formative evaluation. Thus, the position taken by the evaluator is that the instruments were sufficiently valid and reliable to be used for producing the data required for the study.

DATA COLLECTION

The evaluation designs that are presented in Chapter 5, Formative Evaluation, and Chapter 6, Summative Evaluation, provide detailed information on all of the data collection procedures used in the evaluation of the Learning Systems Project. The evaluation designs presented in these chapters were based on the LSPE Design. An examination of the data collection procedure columns in each of the evaluation designs for the Learning Systems Project provided a detailed list of the procedures used in the evaluation of the project and the frequency of use of the different procedures.

Generally, questionnaires were most frequently used for collecting the data. As often as possible, the questionnaires were administered as an integral part of the learning materials of the project in anticipation of increasing the questionnaire return rate. If this procedure was not possible, the evaluator assumed reponsibility for administering the questionnaires whenever possible. In addition, the questionnaires were mainly hand-delivered. A very limited number were sent through campus mail.

Two other procedures, one-to-one interviews and focused group interviews had limited use in collecting data for the evaluation of the Learning Systems Project. The one-to-one interviews were all conducted by the evaluator. An outside interviewer was selected for the focused group interviews to avoid interviewer bias, since the evaluator was known to most of the respondents in the project and had been part of the project before being commissioned to do the evaluation.

DATA ANALYSIS

The use of the Stake (1967) Model as the conceptual framework for the evaluation of the Learning Systems Project suggested certain procedures for analyzing the data. These procedures were discussed and diagrammed in Figure 2 in Chapter 3, Conceptual Framework: Stake (1967) Model, of this dissertation. In review, there were two procedures that were described for processing the data. The first procedure examined the contingencies among antecedents, transactions and outcomes. When evaluating intents, the contingency criterion was discussed as one of logic. In other words, "Is there a logical connection between the outcomes, the antecedent conditions, and the instrumental transactions?" However, when evaluating observations, contingencies depended on empirical evidence. The empirical data would come from within the evaluation or from the research literature. The second procedure, involved in processing descriptive data, examined the congruency between the intents and observations. The data were congruent if the intents were observed or if what was intended actually happened.

In arriving at judgement data, there were two procedures discussed. The first procedure involved standard setting for antecedents, observations and outcomes. The standards would be relative or absolute. Relative standards usually involved comparisons whereas absolute standards indicated acceptable, measureable, meritorious levels. The second procedure that was previously mentioned, compared the observations with the standards, to arrive at judgements of the antecedents, observations and outcomes. Therefore, judgements presented an analysis of the data that included more information than a mere presentation of the analytical results of the data.

The LSPE Design did not include judgement matrices. However, it was intended that the evaluator would compare observations with standards and report the congruencies and discrepancies in judgements outside the matrix. In addition, it was expected that the evaluator would make recommendations based on the judgements.

Therefore, an examination of the evaluation designs that are presented in Chapter 5, Formative Evaluation, and Chapter 6, Summative Evlauation, would provide detailed information on the data analysis procedures used in the evaluation of the Learning Systems Project. It should be noted that the standards described in the evaluation designs were decided upon in consultation with each of the professors involved in developing the teaching/learning systems and related materials.

CHAPTER 5

FORMATIVE EVALUATION

INTRODUCTION

The formative evaluation of the Learning Systems Project was conducted from September 1979 to December 1980. The problem statements for the formative evaluation were formulated from the first four of the seven "criteria for success" for the project that had been developed and identified, by the three project leaders, in the original project proposal. (The last three "criteria for success" were used for developing the problem statements for the summative evaluation.) The problem statements for the formative evaluation were:

1. Are the innovative teaching/learning systems meeting the learning needs of students with varying academic and experiential backgrounds, and varying career aspirations?
2. Are the related learning materials meeting the learning needs of students with varying academic and varying experiential backgrounds, and varying career aspirations?

Then these problem statements were used for designing the formative evaluation of each of the selected courses: Clothing and Textiles 309, Family Studies 440, Family Studies 444 and Foods and Nutrition 325/326.

The focus of this chapter is on the formative evaluation that was conducted in each of the selected courses. First of all, a brief description of each course is given. This course description is followed by the detailed evaluation design, that was based on the format suggested by LSPE Design. Copies of the appendices referred to in each of the designs are included in the appendices.

In each of the evaluation designs, the antecedents provided data that were useful in describing the students' varying academic and experiential backgrounds, and varying career aspirations. The transactions provided data to be used in responding to problem statement 1, while the outcomes provided to used in responding to problem statement 2.

Following the detailed evaluation design, conclusions are discussed for each of the selected courses. The conclusions respond to problem statements 1 and 2 as they apply to each of the selected courses. Judgements and recommendations are also included in the conclusion section.

CLOTHING AND TEXTILES 309

Introduction

This section begins with a brief description of Clothing and Textiles 309, September 1979. Following this brief description is the detailed formative evaluation design that was based on the format suggested by the LSPE Design. The formative evaluation design was developed from problem statements 1 and 2 as they applied to Clothing and Textiles 309. The conclusion responds to problem statements 1 and 2, and judgements and recommendations are included.

Description

Clothing and Textiles 309, Textile Science 1, is an introduction to textile serviceability concepts, textile legislation, and the study of the following textile components: fibre, yarn, fabric coloration and fabric finish. Prior to 1979 the course content had been divided and translated into thirteen modular units. The modular units had been compiled into a manual that was purchased by the students. The modules included background materials, notes and teaching/learning activities such as lectures, group discussions and interactive slide/tape assignments.

In 1979, the innovative component that was incorporated into the modularized system of teaching/learning, was a computer managed system (CML). The CML system was used for testing purposes and student progress monitoring.

Therefore, in Clothing and Textiles 309, the innovative teaching/learning systems stated in the problem statement 1 referred to the modularized and CML systems. The related learning materials stated in problem statement 2 referred to the modules. Following, is a detailed design of the formative evaluation that was implemented in Clothing and Textiles 309 in order to respond to the formative questions as they applied to Clothing and Textiles 309.

INNOVATIVE PROJECT
FORMATIVE EVALUATION DESIGN
CLOTHING AND TEXTILES 309

	VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
ANTECEDENTS	A.1 Student population entry characteristics - academic background.	A.1 Student population description questionnaire (Appendix 1) administered in class in September by professor.	A.1 Student population will have varying academic background.	A.1 Analysis of the data from Appendix 1 showed that students reported varying academic backgrounds ranging from reported mean GPA of 2.00 to a reported mean GPA of 8.30. Table 5.1 gives the results.
	A.2 Student population entry characteristics - faculty enrolment.	A.2 Student population description questionnaire (Appendix 1) administered in class in September by professor.	A.2 Student population will be enrolled in a variety of faculties.	A.2 Analysis of the data from Appendix 1 showed that 29 students were enrolled in Education and 73 students were enrolled in Home Economics. There was also 1 B. Comm. student. Table 5.2 gives the results.
	A.3 Student population entry characteristics - major area of study.	A.3 Student population description questionnaire (Appendix 1) administered in class in September by professor.	A.3 Student population will be enrolled in a variety of major areas of study.	A.3 Analysis of the data from Appendix 1 showed that the 29 Education students had a major area of study in Home Economics. Of the 73 students enrolled in B.Sc.H.Ec.: 51 had a major area of study in Clothing and Textiles, 21 had a major area of study in Family Studies and 1 had a major area of study in Foods

VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
			and Nutrition. There was also 1 B. Comm. student.
A.4 Student population entry characteristics - year of program.	A.4 Student population description questionnaire (Appendix 1) administered in class in September by professor.	A.4 Student population will be enrolled in a variety of years of program.	A.4 Analysis of the data from Appendix 1 showed that 8 students were in first year of their programs, 47 students were in second year, 34 students were in third year, 13 students in fourth year and 1 student in fifth year.
A.5 Student population entry characteristics - Chemistry 200 and/or Chemistry 250 in background.	A.5 Student population description questionnaire (Appendix 1) administered in class in September by professor.	A.5 Student population will be varied in chemistry background in relation to Chemistry 200 and Chemistry 250.	A.5 Analysis of the data from Appendix 1 showed that 17 students had completed Chemistry 200 and 94 students had completed Chemistry 250. Out of these, 16 had completed both Chemistry 200 and Chemistry 250. Three students had not taken or were not taking Chemistry 200 or Chemistry 250. Table 5.3 gives the results.
A.6 Student population entry characteristic - attitude towards textile	A.6 Pre-attitude scale (Appendix 2) was administered in class in September	A.6 Student population will have a range of attitudes towards textile	A.6 Analysis of the data from Appendix 2 showed that the total student population reported a range of rating for each of the

VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
science.	by evaluator.	science.	attitude statements and for each of the pairs in the attitude scale. Similarily, when the total sample was grouped into B.Ed. students, B.Sc.H.Ec.CL.TX. students and B.Sc.H.Ec.FAM.STU. students, each of these groups reported a range of rating for each of the attitude statements and for each pairs in the attitude scale (Table 5.4).
A.7 Student population entry characteristic - competency in textile science.	A.7 Pre-competency Rating Scale (Appendix 3) was adminstered in class in September by professor.	A.7 Student population will have a range of ratings (from 1 high to 5 low) on the 14 competencies for the course.	A.7 Analysis of the data from Appendix 3 showed that the total student population reported a range in each of the competencies. Similarly, when the total sample was grouped into B.Ed. students, B.Sc.H.Ec.CL.TX students & B.Sc. H.Ec.FAM.STU. students, each of these groups reported a range in each of the competencies (Table 5.5).

	VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
TRANSACTIONS	T.1 Student involvement with modularized method of teaching/learning.	T.1.1 Student questionnaire (Appendix 6) was administered in class in December by evaluator.	T.1.1 80% of the students will agree that the use of modules in this course was effective, efficient, and appropriate.	T.1.1 An analysis of the data from Appendix 6, Questions 2, 3 and 4, showed the following: 80% of the students agreed that the use of modules in this course was effective, 65% of the students agreed that the use of modules in this course was efficient, & 68% of the students agreed that the use of modules in this course was appropriate. (Table 5.6).
		T.1.2 Resource person questionnaire (Appendix 7) was delivered in December by evaluator.	T.1.2 The 2 resource persons will agree that the use of modules in this course was effective, effcient, and appropriate.	T.1.2 An analysis of the data from Appendix 7, Questions 1, 2, and 3, showed that both resource persons agreed that the use of modules in this course was effective, efficient, and appropriate.
		T.1.3 Professor questionnaire (Appendix 5) was delivered in December by evaluator.	T.1.3 The professor will agree that the use of modules in this course was effective, efficient, and appropriate.	T.1.3 An analysis of the data from Appendix 5, Questions 1, 2, and 3, showed that the professor agreed that the use of modules in this course was effective and appropriate, but she was uncertain whether the use of modules in this course was efficient.

VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
T.2 Student involvement with CML system in this course.	T.2.1 Student questionnaire (Appendix 9) was administered in class in December by evaluator.	T.2.1 80% of the students will agree that the use of CML in this course was efficient, effective (it allowed self-pacing and self-tracking), and appropriate.	T.2.1 An analysis of the data from Appendix 9, Questions 5, 6, 7,8, and 9, showed that only 18.5% agreed that the use of CML in this course allowed efficient access to self-testing. 45% of the students agreed that the use of CML in this course allowed self-pacing and 70% of the students agreed that the use of CML allowed self-tracking. 46% of the students agreed that the use of CML in this course was appropriate and 31% agreed that CML was an enjoyable experience. Table 5.7 gives the results.
	T.2.2 Resource person questionnaire (Appendix 7) was delivered in December by evaluator.	T.2.2 The 2 resource persons will agree that the use of CML in this course was effective, efficient, and appropriate.	T.2.2 An analysis of the data from Appendix 7, Questions 4, 5, and 6, showed that both resource persons agreed that the use of CML in this course was not effective, efficient, or appropriate.
	T.2.3 Professor questionnaire (Appendix 5) was delivered in December by evaluator.	T.2.3 The professor will agree that the use of CML in this course was effective, efficient, and appropriate.	T.2.3 An analysis of the data from Appendix 5, Questions 4, 5, and 6, showed that the professor agreed that the use of CML in this course was not effective, efficient, or appropriate.

VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
T.3 Student interactions with other students.	T.3 Student questionnaire (Appendix 6) was administered in class in December by evaluator.	T.3 80% of the students will agree that their interactions with other students are satisfactory.	T.3 An analysis of the data from Appendix 6, Question 10, showed that 83% of the students agreed that their interactions with other students was satisfactory.
T.4 Student interaction with resource persons.	T.4.1 Student questionnaire (Appendix 6) was administered in class in December by evaluator.	T.4.1 80% of the students will agree that their interaction with the resource persons are satisfactory.	T.4.1 An analysis of the data from Appendix 6, Question 11, showed that 80% of the students agreed that their interactions with the resource persons were satisfactory.
	T.4.2 Resource person questionnaire (Appendix 7) was delivered in December by evaluator.	T.4.2 The 2 resource persons will agree that their interactions with the students are satisfactory.	T.4.2 An analysis of the data from Appendix 7, Question 8, showed that both resource persons agreed that their intereactions with the students were satisfactory.
T.5 Student interaction with the professor.	T.5.1 Student questionnaire (Appendix 6) was administered in class in December by evaluator.	T.5.1 80% of the students will agree that their interaction with the professor are satisfactory.	T.5.1 An analysis of the data from Appendix 6, Question 12, showed that 79% of the students agreed that their interactions with the professor were satisfactory.

	VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
		T.5.2 Professor questionnaire (Appendix 5) was delivered in December by evaluator.	T.5.2 The professor will agree that her interactions with the students are satisfactory.	T.5.2 An analysis of the data from Appendix 5, Question 8, showed that the professor did not agree that her interactions with the students were satisfactory.
OUTCOMES	0.1 Modules are effective in that they are rated as valuable at the completion of the course.	0.1.1 Student questionnaire (Appendix 9) was administered in class in December by evaluator.	0.1.1 80% of the students will agree each module is valuable, either yes or somewhat, at the completion of the course.	0.1.1 An analysis of the data from Appendix 9 showed that from 96 to 100% of the students agreed that each module was valuable, either yes or somewhat, at the completion of the course. Table 5.8 gives the results.
		0.1.2 Resource person questionnaire (Appendix 7) was delivered in December by evaluator.	0.1.2 The 2 resource persons will agree that each module is valuable, either yes or somewhat.	0.1.2 An analysis of the data from Appendix 7, Question 13, showed that both resource persons rated each of the modules as valuable, either yes or somewhat.
	0.2 Modules are effective in that the stated objectives are met by the students.	0.2 Module evaluations (Appendix 4) were placed in the laboratory. The students were requested to hand in 4 evaluations. These	0.2 80% of the students will agree that they have met the stated objective	0.2 Analysis of the data from Appendix 4 for each module, Question 3, showed that 80% of the students agreed that they had met the stated objectives of modules 2,3, 5, 9, 11, 12, and 14. Less than 80% of the stu-

VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
	4 were selected on a random basis from the total number of modules. A chart was placed in the laboratory with the students' names and the evaluations they were to complete.		dents agreed that they had met the stated objectives of modules 4, 6, 7, 8, 10, and 13. Although more than 20% of the students agreed that they had not met the stated objectives for the following, they did agree that modules 4, 6, 7, 8, 10, and 13 were valuable. Table 5.8 gives the results. Therefore, the complete evaluation forms of each of these modules, were examined and revisions will be made on the suggestions that were offered on the evaluation forms.
0.3 Modules are meeting the needs of students in that they increase students' competencies.	0.3.1 Module evaluations (Appendix 4) were placed in the laboratory. The students were requested to hand in 4 evaluations. These 4 were selected on a random basis from the total number of modules. A chart was placed in the laboratory with the students' names and the evaluations they were to complete.	0.3.1 80% of the students will agree that each of the modules has increased their competencies.	0.3.1 Analysis of the data from Appendix 4 for each module, Question 18,showed that 80% of the students agreed that modules 2, 3, 4, 5, 7, 9, 11, 12, and 13, had increased their competencies. Less than 80% of the students dents agreed that moduled 6 and 10 had increased their competencies. Although fewer than 80% of the students agreed that these two modules increased their competencies, they did agree that modules 6 and 10 were valuable. Table 5.8 gave the results. The forms for each of these modules were examined and revisions

VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
			were suggested based on the information in the evaluation forms. In addition, 85% of the students did agree that the use of modules in this course allowed them to increase their competencies according to their own needs, (Section 0.3.2 below).
	0.3.2 Student questionnaire (Appendix 6) was administered in class in December by evaluator.	0.3.2 80% of the students will agree that the use of modules in this course allowed them to increase their competencies according to their own needs.	0.3.2 Analysis of the data from Appendix 6, Question 1, showed that 85% of the students did agree that the use of modules in this course allowed them to increase their competencies according to their own needs.
0.4 Student population entry characteristics - attitude toward textile science.	0.4 Post-attitude scale (Appendix 2) was administered in class in December by evaluator and the results were compared with the results from the pre-attitude scale that was administered in class in September by professor.	0.4 Student population post-attitude scale will not indicate a significantly more negative attitude towards textile science than pre-attitude scale.	0.4 Analysis of the data from Appendix 2 showed that the total student population did not indicate a significantly more negative attitude toward textile science on any of the attitude statements or pairs in the attitude scale, between post and pre ratings (Tables A.6.A and A.6.B). Similarly, the same result occurred when the total sample was grouped into B.Ed. students, B.Sc.H.Ec.CL.TX students and

VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
			B.Sc.H.Ec.FAM.STU. students (Table 5.4).
0.5 Student population entry characteristics - competency in textile science.	0.5 Post-competency Rating Scale (Appendix 3) was administered in class in December by evaluator and the results were compared with the results from the Pre-Competency Rating Scale that was administered in class in September by the professor.	0.5 Student population will not self-rate themselves significantly less competent on any of the fourteen competencies.	0.5 Analysis of the data from Appendix 33 showed that the total student population rated themselves significantly more competent in all fourteen competencies. Similarly, the same result occurred with B.Ed. and B.Sc.H.Ec.CL.TX. students. The B.Sc.H.Ec. FAM.STU. students rated themselves significantly more competent in all the competencies except the first competency (Table 5.5).

TABLE 5.1

CLOTHING AND TEXTILES 309

ACADEMIC BACKGROUND IN PREVIOUS YEARS

Year of Program	Reported Mean GPA	Reported Minimum GPA	Reported Maximum GPA	Std. Dev.	Valid Cases
First	5.77	2.00	8.60	1.23	80
Second	6.11	4.50	8.20	.93	44
Third	6.49	5.20	8.30	.85	14

TABLE 5.2

CLOTHING AND TEXTILES 309

STUDENT ENROLLMENT ACCORDING TO FACULTY

Faculty		Frequency
Education		29
B.Sc. H.Ec.		73
B. Comm.		1
	Total	103

TABLE 5.3

CLOTHING AND TEXTILES 309

STUDENT REPORTED CHEMISTRY BACKGROUND

n=96

Course(s)	Status	Number of Cases
Chemistry	No courses	3
Chemistry 200	Taken or taking	1
Chemistry 250	Taken or taking	76
Chemistry 200 and Chemistry 250	Taken or taking	16

TABLE 5.4
CLOTHING AND TEXTILES 309
SELF-REPORTED RATING OF ATTITUDE

Total Sample	000	n = 74
B. Ed. Students	000	n = 23
B.Sc. CLTX Students	(000)	n = 29
B.Sc. Fam. Stu. Students	[000]	n = 18

Attitude Statements	Pre-Self-Reported Rating of Attitude Statements (1-Strongly Agree)	Mean	(5-Strongly Disagree)	Post-Self-Reported Rating of Attitude Statements (1-Strongly Agree)	Mean	(5-Strongly Disagree)	Significant Change (level of significance .05)
1. Textile science is very interesting to me.	1	2.34	5	1	2.01	5	*
	1	2.17	3	1	1.78	3	*
	(1)	(2.28)	(4)	(1)	(1.76)	(3)	(*)
	[1]	[2.72]	[4]	[1]	[2.67]	[5]	
2. I don't like textile science.	1	3.98	4	2	4.20	5	*
	3	4.22	5	2	4.30	5	
	(3)	(4.07)	(5)	(3)	(4.45)	(5)	(*)
	[2]	[3.39]	[4]	[2]	[3.61]	[5]	
3. I am always under a terrible strain in a textile science class.	2	3.57	5	2	3.90	5	*
	2	3.52	5	2	3.74	5	
	(3)	(3.72)	(5)	(2)	(4.14)	(5)	(*)
	[1]	[3.33]	[5]	[2]	[3.67]	[5]	
4. Textile science is fascinating and fun.	1	2.75	4	1	2.28	4	*
	1	2.57	3	1	2.04	3	*
	(2)	(2.72)	(4)	(1)	(2.17)	(4)	(*)
	[2]	[3.11]	[4]	[1]	[2.78]	[4]	

Attitude Statements	Pre-Self-Reported Rating of Attitude Statements (1-Strongly Agree)	Mean	(5-Strongly Disagree)	Post-Self-Reported Rating of Attitude Statements (1-Strongly Agree)	Mean	(5-Strongly Disagree)	Significant Change (level of significance .05)
5. Textile science makes me feel secure, and at the same time it is stimulating.	2 2 (2) [2]	2.95 2.70 (2.90) [3.33]	5 4 (4) [5]	1 1 (1) [1]	2.50 2.43 (2.31) [2.78]	5 4 (4) [5]	* (*) [*]
6. Textile science makes me feel uncomfortable, restless, irritable and impatient.	1 2 (3) [2]	3.82 4.00 (3.86) [3.50]	5 5 (5) [5]	1 1 (2) [1]	3.88 3.83 (4.24) [3.28]	5 5 (5) [5]	 (*)
7. In general, I have a good feeling toward textile science.	1 1 (1) [2]	2.24 1.91 (2.24) [2.72]	5 3 (4) [4]	1 1 (1) [1]	1.91 1.74 (1.72) [2.44]	5 3 (3) [5]	* (*)
8. When I hear the word textile science I have a feeling of dislike.	1 2 (2) [2]	3.85 4.17 (3.76) [3.56]	5 5 (5) [5]	1 2 (2) [1]	4.03 4.09 (4.28) [3.61]	5 5 (5) [5]	 (*)
9. I approach textile science with a feeling of hesitation.	1 2 (1) [2]	3.32 3.48 (3.48) [2.67]	5 5 (5) [4]	1 2 (2) [1]	3.69 3.78 (4.10) [2.89]	5 5 (5) [5]	* (*)

Attitude Statements	Pre-Self-Reported Rating of Attitude Statements (1-Strongly Agree)	Pre-Self-Reported Rating of Attitude Statements Mean	Pre-Self-Reported Rating of Attitude Statements (5-Strongly Disagree)	Post-Self-Reported Rating of Attitude Statements (1-Strongly Agree)	Post-Self-Reported Rating of Attitude Statements Mean	Post-Self-Reported Rating of Attitude Statements (5-Strongly Disagree)	Significant Change (level of significance .05)
10. I really like textile science.	1 1 (1) [2]	2.74 2.61 (2.72) [3.11]	5 3 (4) [4]	1 1 (1) [1]	2.11 1.83 (1.93) [2.78]	5 3 (4) [5]	* * (*)
11. I have always enjoyed studying textile science.	1 1 (2) [2]	2.91 2.70 (2.93) [3.28]	5 3 (4) [5]	1 1 (1) [1]	2.74 2.70 (2.34) [3.33]	5 4 (5) [5]	(*)
12. It makes me nervous to even think about doing a textile science experiment.	1 2 (1) [1]	3.68 3.74 (3.69) [3.44]	5 5 (5) [5]	1 2 (2) [1]	4.00 3.87 (4.24) [3.72]	5 5 (5) [5]	* (*)
13. I feel at ease in textile science and like it very much.	1 1 (1) [2]	2.80 2.57 (2.86) [3.11]	5 3 (4) [4]	1 1 (1) [1]	2.23 2.13 (1.97) [2.83]	5 4 (4) [5]	* * (*)
14. I feel a definite positive reaction to textile science; it's enjoyable.	1 1 (1) [2]	2.70 2.61 (2.64) [3.06]	5 4 (4) [4]	1 1 (1) [1]	2.07 2.00 (1.76) [2.61]	5 4 (3) [5]	* * (*)

Attitude Scale	Pre-Self-Reported Rating of Attitude Scale Minimum	Pre-Self-Reported Rating of Attitude Scale Mean	Pre-Self-Reported Rating of Attitude Scale Maximum	Post-Self-Reported Rating of Attitude Scale Minimum	Post-Self-Reported Rating of Attitude Scale Mean	Post-Self-Reported Rating of Attitude Scale Maximum	Significant Change (level of significance .05)
15. Good-Bad	1	2.05	4	1	1.82	4	*
	1	1.87	3	1	1.70	2	
	(1)	(2.00)	(3)	(1)	(1.69)	(3)	(*)
	[2]	[2.39]	[4]	[1]	[2.11]	[4]	
16. Timely-Untimely	1	2.41	4	1	1.66	4	*
	1	2.23	3	1	1.65	3	*
	(1)	(2.48)	(3)	(1)	(1.62)	(3)	(*)
	[1]	[2.50]	[3]	[1]	[1.67]	[4]	[*]
17. Painful-Pleasurable	1	3.71	5	1	3.83	5	
	3	4.00	5	2	3.91	5	
	(2)	(3.52)	(5)	(3)	(4.10)	(5)	(*)
	[3]	[3.44]	[5]	[1]	[3.44]	[5]	
18. Meaningless-Meaningful	1	4.20	5	1	4.24	5	
	3	4.43	5	2	4.30	5	
	(3)	(4.10)	(5)	(1)	(4.41)	(5)	
	[3]	[4.00]	[5]	[2]	[3.89]	[5]	
19. Important-Unimportant	1	1.89	4	1	1.74	4	
	1	1.91	5	1	1.61	2	
	(1)	(1.68)	(3)	(1)	(1.61)	(4)	
	[1]	[2.22]	[4]	[1]	[2.06]	[4]	
20. Regressive-Progressive	1	3.85	5	1	3.86	5	
	3	3.91	5	2	3.65	5	
	(2)	(3.89)	(5)	(2)	(4.10)	(5)	
	[3]	[4.00]	[5]	[1]	[3.67]	[5]	

Attitude Scale	Pre-Self-Reported Rating of Attitude Scale Minimum	Pre-Self-Reported Rating of Attitude Scale Mean	Pre-Self-Reported Rating of Attitude Scale Maximum	Post-Self-Reported Rating of Attitude Scale Minimum	Post-Self-Reported Rating of Attitude Scale Mean	Post-Self-Reported Rating of Attitude Scale Maximum	Significant Change (level of significance .05)
21. High-Low	1 1 (1) [2]	2.75 2.74 (2.67) [2.33]	5 3 (3) [3]	1 1 (1) [1]	2.51 2.65 (2.31) [2.56]	4 3 (3) [4]	*
22. Positive-Negative	1 1 (1) [2]	2.14 2.13 (2.00) [2.33]	4 3 (3) [4]	1 1 (1) [1]	1.94 1.87 (1.72) [2.78]	4 3 (3) [4]	

TABLE 5.5
CLOTHING AND TEXTILES 309
SELF-RATING OF COMPETENCE STRATEGIES

Total Sample	000	n = 74
B. Ed. Students	000	n = 23
B.Sc. CLTX Students	{000}	n = 29
B.Sc. Fam. Stu. Students	[000]	n = 18

	Competencies	Pre-Self-Rating of Competencies Highest (1-High)	Mean	Lowest (5-Low)	Post-Self-Rating of Competencies Highest (1-High)	Mean	Lowest (5-Low)	Significant Change (level of significance .05)
1.	The student will be able to function effectively with individualized materials being used in selected courses in the Home Economics Faculty.	1 2 {1} [2]	2.98 3.33 {2.78} [3.06]	5 5 {5} [5]	1 1 {1} [1]	2.13 2.21 {2.00} [2.22]	4 4 {4} [3]	* * {*}
2.	The student will develop an understanding of the several aspects of serviceability and of the various properties which contribute to the serviceability of textile products.	2 2 {2} [2]	3.36 3.58 {3.03} [3.78]	5 5 {4} [5]	1 1 {1} [1]	1.72 1.71 {1.63} [1.94]	3 2 {2} [3]	* * {*} [*]
3.	The student will be able to outline the main provisions of Canadian legislation and regulations pertaining to textile products, and describe how these affect the consumer's selection and use of such products.	2 3 {2} [3]	4.19 4.46 {4.06} [4.33]	5 5 {5} [5]	1 1 {1} [1]	2.06 2.04 {1.94} [2.17]	5 3 {4} [5]	* * {*} [*]

	Competencies	Pre-Self-Rating of Competencies			Post-Self-Rating of Competencies			Significant Change (level of significance .05)
		Highest (1-High)	Mean	Lowest (5-Low)	Highest (1-High)	Mean	Lowest (5-Low)	
4.	The student will have a knowledge of the origin and production of both natural and man-made fibers. The student will also have a basic understanding of the structure of various fiber types and of the relationships between structure and other fiber properties.	1 1 (1) [2]	3.62 3.71 (3.41) [4.00]	5 5 (5) [5]	1 1 (1) [1]	1.85 1.67 (1.75) [2.17]	4 3 (3) [4]	* * (*) [*]
5.	The student will have a knowledge of the serviceability characteristics of the various fiber types and will be able to relate these characteristics to potential end uses and appropriate care procedures.	1 2 (1) [2]	3.53 3.79 (3.28) [3.78]	5 5 (5) [5]	1 1 (1) [1]	1.86 1.89 (1.69) [2.17]	3 3 (3) [3]	* * (*) [*]
6.	The student will have a knowledge of various aspects of yarn structure and of the relationships between yarn structure and serviceability. The student will apply the knowledge to the selection of yarns (usually found in fabrics) most appropriate for selected end uses.	2 2 (2) [3]	3.85 4.04 (3.56) [4.39]	5 5 (5) [5]	1 1 (1) [1]	1.89 1.67 (1.19) [2.11]	4 3 (4) [4]	* * (*) [*]
7.	The student will develop an understanding of the weaving process and a knowledge of the structure of common basic weave fabrics.	1 2 (1) [3]	3.54 3.71 (3.28) [4.17]	5 5 (5) [5]	1 1 (1) [1]	1.89 1.63 (1.84) [2.18]	4 3 (4) [4]	* * (*) [*]

	Competencies	Pre-Self-Rating of Competencies Highest (1-High)	Pre-Self-Rating of Competencies Mean	Pre-Self-Rating of Competencies Lowest (5-Low)	Post-Self-Rating of Competencies Highest (1-High)	Post-Self-Rating of Competencies Mean	Post-Self-Rating of Competencies Lowest (5-Low)	Significant Change (level of significance .05)
8.	The student will have a knowledge of the structure of special weave fabrics and of the relationships between fabric weave and product serviceability. The student will apply this knowledge to the selection of woven fabrics most appropriate for selected end uses.	1 1 (1) [3]	3.85 4.00 (3.78) [4.17]	5 5 (5) [5]	1 1 (1) [1]	1.96 1.96 (1.81) [2.11]	4 3 (4) [3]	* * (*) [*]
9.	The student will have a knowledge of knit fabric structures and of the relationships between fabric structure and serviceability. The student will apply this knowledge to the selection of knit fabrics most appropriate for selected end uses	2 2 (2) [2]	3.82 4.13 (3.63) [4.17]	5 5 (5) [5]	1 1 (1) [1]	1.99 1.92 (1.88) [2.17]	4 3 (4) [3]	* * (*) [*]
10.	The student will have a knowledge of various formed fabric structures and of the relationships between fabric structure and serviceability. The student will apply this knowledge to the selection of formed fabrics most appropriate for selected end uses.	2 2 (2) [3]	3.90 4.17 (3.72) [4.28]	5 5 (5) [5]	1 1 (1) [1]	2.00 1.92 (2.00) [2.00]	4 4 (4) [4]	* * (*) [*]
11.	The student will have a knowledge of the structure of braids, nets, laces and films and of the relationships between these fabric structures and serviceability.	2 2 (2) [3]	4.04 4.17 (3.88) [4.39]	5 5 (5) [5]	1 1 (1) [1]	1.84 1.71 (1.75) [2.06]	4 2 (4) [3]	* * (*) [*]

Competencies	Pre-Self-Rating of Competencies Highest (1-High)	Pre-Self-Rating of Competencies Mean	Pre-Self-Rating of Competencies Lowest (5-Low)	Post-Self-Rating of Competencies Highest (1-High)	Post-Self-Rating of Competencies Mean	Post-Self-Rating of Competencies Lowest (5-Low)	Significant Change (level of significance .001)
12. The student will have a knowledge of various methods of applying color and design to fabrics, and of the relationship between these methods and serviceability. The student will apply this knowledge in the selection of appropriate dyeing or applied design methods for selected end uses.	1 1 (1) [3]	3.85 3.92 (3.69) [4.28]	5 5 (5) [5]	1 1 (1) [1]	2.20 2.21 (2.06) [2.39]	5 4 (5) [4]	* * (*) [*]
13. The student will have a knowledge of the function of finishes applied to textile products and how these finishes contribute to serviceability. The student will apply this knowledge to the selection of fabrics with finishes appropriate to selected end uses.	2 2 (2) [3]	3.85 4.00 (3.66) [4.17]	5 5 (5) [5]	1 1 (1) [1]	2.27 2.29 (2.16) [2.33]	5 4 (4) [5]	* * (*) [*]
14. The student will synthesize and apply knowledge of the serviceability characteristics of all the components of a textile product (fiber, yarn, fabric structure, color and design, finish) to select appropriate textile alternatives and to prescribe appropriate care procedures for textile products.	2 2 (2) [3]	3.95 4.08 (3.78) [4.33]	5 5 (5) [5]	1 1 (1) [1]	2.23 2.26 (2.16) [2.33]	4 4 (4) [4]	* * (*) [*]

TABLE 5.6

CLOTHING AND TEXTILES 309
STUDENT RATINGS OF USE OF MODULES
n=79

Variable	Ratings (in percentages) Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Use of modules was effective	25	55	12.5	5	2.5
Use of modules was efficient	16	46	14	16	8
Use of modules was appropriate	17	51	19	10	4

TABLE 5.7

CLOTHING AND TEXTILES 309
STUDENT RATINGS OF USE OF CML
n=80

Variable	Ratings (in percentages) Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
CML allowed efficient access to self-testing	6	12.5	7.5	30	44
CML allowed self-paced learning	11	34	14	19	23
CML allowed self-tracking	14	56	12.5	12.5	5
CML was appropriate	9	38	19	16	19
CML was enjoyable	10	21	13	21	35

TABLE 5.8

CLOTHING AND TEXTILES 309
STUDENT RATINGS OF MODULES VALUABLENESS
AT COMPLETION OF COURSE
n=80

Module Number	Ratings (in percentages) Yes	Somewhat	No
2	95	5	
3	70	26	4
4	83	16	1
5	83	16	1
6	85	14	1
7	80	18	3
8	86	14	
9	87	12	1
10	81	18	1
11	76	23	1
12	76	22	2
13	74	23	3
14	71	25	4

Conclusion

Responses to problem statements 1 and 2 follow, based on the data presented in the preceding formative evalution design of Clothing and Textiles 309.

Problem Statement 1:	Are the innovative teaching/learning systems meeting the learning needs of students with varying academic and experiential backgrounds, and varying career aspirations?
Judgement:	An analysis of the data indicated that the modularized and CML systems fell slightly short of the standards developed for meeting the learning needs of students with varying academic and experiential backgrounds, and varying career aspirations in Clothing and Textiles 309.
Recommendations:	Resources be made available to continue work on CML using the observations reported in the evaluation.
Problem Statement 2:	Are the related learning materials meeting the learning needs of students with varying academic and experiential backgrounds, and varying career aspirations?
Judgement:	An analysis of the data indicated that some of the modules did not meet the standards developed for meeting the learning needs of students with varying academic and experiential backgrounds, and varying career aspirations.
Recommendations:	Resources be made available to revise those modules, that did not meet the standards, using the observations reported in the evaluation design.

FAMILY STUDIES 440

Introduction

This section begins with a brief description of Family Studies 440, September 1979. Following this brief description is the detailed formative evaluation design that was based on the format suggested by the LSPE Design. The formative evaluation design was developed from problem statements 1 and 2 as they applied to Family Studies 440. The conclusion responds to problem statements 1 and 2, and recommendations are suggested.

Description

Family Studies 440, Consumer Problems, is an analysis of problems faced by the family as consumer, within the framework of the economic, sociological, psychological and legal factors which create these problems. In addition, sources of information and aid for the consumer are included.

The large number of students that had been registering in Family Studies 440 had varying backgrounds resulting in varying degrees of deficiency in macroeconomics. Accordingly, an economics module was developed to meet the students' needs of remediation and review. The professor made the students responsible for their remediation and review.

Therefore, in Family Studies 440, the innovative teaching/learning systems stated in problem statement 1 referred to the modularized system that was implemented for remediation and review of macroeconmomics. The related learning materials stated in problem statement 2 referred to the module. Following is a detailed design of the formative evaluation that was implemented in Family Studies 440 in order to respond to the formative evaluation questions as they applied to Family Studies 440.

INNOVATIVE PROJECT
FORMATIVE EVALUATION DESIGN
FAMILY STUDIES 440

	VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
ANTECEDENTS	A.1 Student population entry characteristic - academic background.	A.1 Student population description questionnaire (Appendix 8) administered in class in September by evaluator.	A.1 Student population will have varying academic background.	A.1 Analysis of the data from Appendix 8 shows that students reported varying academic backgrounds ranging from a reported mean GPA of 2.50 to a reported GPA of 8.80. Table 5.9 gives the results.
				A.1.2 Analysis of the data from Appendix 8 showed that students, when grouped according to faculties, reported varying academic backgrounds. The mean GPA for B. Com. students was 6.84, for B.Sc. H.Ec. students, 5.88, and for B.Ed. students, 6.05. Table 5.10 gives the results.
	A.2 Student population entry characteristics - faculty enrolment.	A.2 Student population description questionnaire (Appendix 8) administered in class in September by evaluator.	A.2 Student population will be enrolled in a variety of faculties.	A.2 Analysis of the data from Appendix 8 showed that students are enrolled in 5 different faculties. Table 5.11 gives the results.

VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
A.3 Student population entry characteristics - year of program.	A.3 Student population description questionnaire (Appendix 8) administered in class in September by evaluator.	A.3 Student population will be enrolled in a variety of years of programs.	A.3 Analysis of the data from Appendix 13 showed that students are enrolled in first, second, third, fourth, and fifth years of programs. Table 5.12 gives the results.
A.4 Student population entry characteristics - prerequisite courses.	A.4 Student population description questionnaire (Appendix 8) administered in class in September by evaluator.	A.4 Student population will have varied prerequisite courses either Econ. 201/202 or Econ. 306/307 or no courses.	A.4 Analysis of the University Calendar showed that B. Com. and B.Sc. H.Ec. (Family Studies and Clothing and Textiles) students are required to complete Econ. 201/203 or Econ. 306/307 for their program. Table 5.11 showed that 23 students were enrolled in Education, 1 student in Phys. Ed. and Rec. and 2 students in Grad. Studies. Analysis of individual information forms revealed that 20 of the B.Ed. students did not have the prerequisite courses.
A.5 Student population entry characteristics - attitude towards economics.	A.5 Pre-attitude scale (Appendix 9) administered in class in September by evaluator.	A.5 Student population will have a range of attitudes towards economics.	A.5 Analysis of the data from Appendix 9 showed the mean rating for the total sample on the 14 attitude statements and the 8 paired attitude statements ranged from a high mean rating of 1 to

	VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
				a low mean rating of 5. Table 5.13 gives the results.
TRANSACTIONS	T.1 Student involvement with modular method as means for obtaining prerequisite.	T.1.1 Economics module evaluation (Appendix 4, Question 17), administered in class to those who completed or partly completed the module in December by evaluator.	T.1.1 80% of the students that complete or partly complete the economics module agree that it is an appropriate learning method (Appendix 4, Question 17).	T.1.1 Analysis of the data from Appendix 4, Question 17, showed that 85% of the students that completed or partly completed the economics module agreed that it is an appropriate learning method. Table 5.14 gives the results.
		T.1.2 Professor questionnaire administered in December by evaluator.	T.1.2 The professor agrees that the economics module is an appropriate learning method.	T.1.2 Analysis of the data showed that the professor agreed that the economics module is an appropriate learning method.
OUTCOMES	0.1 Modules were printed to accommodate 1) the B.Ed. students, since the Econ. prerequisite courses could not be included in their program of study; 2) any B.Com. or B.Sc. H.Ec. students that wanted	0.1 Modules were brought to class by professor and purchased by students.	0.1 50% of the B.Ed. students that do not have the prerequisite will purchase and complete or partly complete the module.	0.1 Analysis of the data from Appendix 4 (completion question) showed that 15 students completed or partly completed the module. Table 5.15 gives the faculties of these students. Five of these students were B.Ed. students. The data showed that 16 B.Ed. students had no Econ. courses, 4 B.Ed. students had only 1 of Econ.

VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
a review of economics.			201/202/306/307, 1 B.Ed. student had Econ. 201/202 or Econ. 306/307. Twenty B.Ed. students did not have the prerequisite courses. Only 25% of these B.Ed. students completed or partly completed the module. In consultation with the Professor, it was decided that it was the B.Ed. students' responsibility to improve their deficient background. Therefore, the module would be printed and made available to the students in 1980.
0.2 Modules are effective in that the stated objectives are met by students.	0.2 Module evaluation (Appendix 4, Question 17) administered in class to those who completed or partly completed the module in December by evaluator.	0.2 80% of the students that completed or partly completed the module agree that they have met the stated objectives (Appendix 4, Question 17).	0.2 Analysis of the data from Appendix 4, Question 17, showed that 77% of the students that completed or partly completed the economics module agreed that they had met the stated objectives. Table 5.16 gives the results.
0.3 Module is meeting the needs of students in that it increases competency in economics.	0.3 Module evaluation (Appendix 4, Question 16) administered in class to those who completed or partly completed module in December by evaluator.	0.3 80% of the students that cometed or partly completed the module agree that the module has increased their competency in economics.	0.3 Analysis of the data from Appendix 4, Question 16, showed that 77% of the students that completed or partly completed the module agree that the module had increased their competency in economics. Table 5.17 gives the results.

VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
0.4 Module is meeting needs of students in that students without prerequisite courses can learn from module.	0.4.1 Mean GPA for those students without prerequisite courses is compared to mean GPA for those students that have prerequisite courses.	0.4.1 There will be no significant difference between the mean GPA for the students without prerequisite courses and the mean GPA for the students with prerequisite courses.	0.4.1 Analysis of the data from Appendix 8, Question 5, showed that the mean GPA for students without prerequisite courses was 6.15 and the mean GPA for students with prerequisite courses was 5.90. There was no significant difference at the 0.1 level.
	0.4.2 Mean final grade score for those students without prerequisite courses and completing the module is compared to mean final grade score for those students with prerequisite courses.	0.4.2 Mean final grade score for those students without prerequisite courses and completing or partly completing the module will not be significantly different from mean final grade score of those students with the prerequisite courses, if there is no significant difference between the mean GPA of these two groups.	0.4.2 Mean final grade score for students that completed or partly completed the module and had no prerequisite course was 6.33. Mean final grade score for students that had prerequisite courses was 6.41. There was no significant difference between the scores.
0.5 Student population exit - characteristics attitude towards economics.	0.5 Post-attitude scale (Appendix 9) administered in class in December by eval-	0.5 Student population post-attitude scale will not indicate a significantly	0.5 Analysis of the data from Appendix 9 showed the total student population did indicate a significantly more ne-

VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
	uator.	more negative attitude towards economics than the pre-attitude scale.	gative attitude toward economics on any of the attitude statements or pairs in the attitude scale, between post and pre-ratings (Table 5.13).
0.6 Course content will deal more exclusively with consumer issues rather than teaching and reviewing basic economics concepts.	0.6 Interview with professor.	0.6 Comparison of course content prior to module incorporation with that after module incorporation by analyzing course outlines.	0.6 The professor agreed that the course content dealt more exclusively with consumer issues rather than teaching and reviewing basic economic concepts. An analysis of the course outlines revealed the same result.

TABLE 5.9

FAMILY STUDIES 440
REPORTED ACADEMIC BACKGROUND
ACCORDING TO
YEAR OF PROGRAM

Year of Program	Reported Mean GPA	Reported Minimum GPA	Reported Maximum GPA	Std. Dev.	Valid Cases
First	5.69	5.00	8.60	1.61	58
Second	6.09	6.00	8.80	1.39	59
Third	6.13	6.00	8.50	1.45	37
Fourth	6.00	2.50	7.90	2.46	4
Fifth	4.50	4.50	4.50	-	1

TABLE 5.10

FAMILY STUDIES 440
STUDENT ACADEMIC BACKGROUND
ACCORDING TO
FACULTY

Faculty	Reported Mean GPA	Reported Minimum GPA	Reported Maximum GPA	Std. Dev.	Valid Cases
B.Comm.	6.84	6.17	7.50	0.49	6
B.Sc. H.Ec.	5.88	0.80	8.60	1.45	42
B.Ed.	6.05	2.38	7.60	1.06	23

TABLE 5.11

FAMILY STUDIES 440

FACULTY ENROLLMENT

Faculty	Frequency
Bus. Admin. and Commerce	6
Education	23
Home Economics	45
Phys.Ed. and Recreation	1
Grad Studies	2

TABLE 5.12

FAMILY STUDIES 440

YEAR OF PROGRAM

Year of Program	Frequency
1	4
2	6
3	32
4	34
5	1

TABLE 5.13
FAMILY STUDIES 440
SELF-REPORTED RATING OF ATTITUDE
STATEMENTS FOR TOTAL SAMPLE
n=51

Attitude Statements	Pre-Self-Reported Rating of Attitude Statements (1-Strongly Agree)	Pre-Self-Reported Rating of Attitude Statements Mean	Pre-Self-Reported Rating of Attitude Statements (5-Strongly Disagree)	Post-Self-Reported Rating of Attitude Statements (1-Strongly Agree)	Post-Self-Reported Rating of Attitude Statements Mean	Post-Self-Reported Rating of Attitude Statements (5-Strongly Disagree)	Significant Change (level of significance .05)
1. Economics is very interesting to me.	1	2.78	5	1	2.63	5	*
2. I don't like economics.	1	3.69	5	1	3.69	5	*
3. I am always under a terrible strain in an economics class.	1	3.63	5	1	3.51	5	*
4. Economics is fascinating and fun.	1	3.10	5	2	3.18	5	*
5. Economics makes me feel secure, and at the same time it is stimulating.	1	3.12	5	1	3.20	5	*
6. Economics makes me feel uncomfortable, restless, irritable and impatient.	2	3.63	5	1	3.53	5	
7. In general, I have a good feeling toward economics.	1	2.75	5	2	2.71	5	*

Attitude Statements	Pre-Self-Reported Rating of Attitude Statements (1-Strongly Agree)	Pre-Self-Reported Rating of Attitude Statements Mean	Pre-Self-Reported Rating of Attitude Statements (5-Strongly Disagree)	Post-Self-Reported Rating of Attitude Statements (1-Strongly Agree)	Post-Self-Reported Rating of Attitude Statements Mean	Post-Self-Reported Rating of Attitude Statements (5-Strongly Disagree)	Significant Change (level of significance .05)
8. When I hear the word economics I have a feeling of dislike.	1	3.47	5	1	3.71	5	
9. I approach economics with a feeling of hesitation	2	3.08	5	1	3.12	5	
10. I really like economics.	1	3.04	5	1	2.90	5	*
11. I have always enjoyed studying economics.	1	3.14	5	1	3.24	5	
12. It makes me nervous to even think about doing an economics experiment.	1	3.37	5	1	3.75	5	
13. I feel at ease in economics and like it very much.	2	3.02	4	1	2.94	5	
14. I feel a definite positive reaction to economics; it's enjoyable.	1	3.18	5	1	3.00	5	*

	Attitude Scale	Pre-Self-Reported Rating of Attitude Scale Minimum	Mean	Maximum	Post-Self-Reported Rating of Attitude Scale Minimum	Mean	Maximum	Significant Change (level of significance .05)
15.	Good-Bad	1	2.58	5	1	2.44	5	
16.	Timely-Untimely	1	2.35	4	1	2.33	4	*
17.	Painful-Pleasurable	1	3.31	5	2	3.43	5	
18.	Meaningless-Meaningful	2	3.84	5	2	3.88	5	*
19.	Important-Unimportant	2	2.10	5	1	2.16	5	*
20.	Regressive-Progressive	1	3.76	5	2	3.70	5	*
21.	High-Low	3	2.81	5	1	2.56	4	*
22.	Positive-Negative	1	2.67	5	1	2.45	5	

TABLE 5.14

FAMILY STUDIES 440

APPROPRIATENESS OF MODULAR METHOD

n=13

	(Responses given in percentages)				
	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Module appropriate learning method for economics	23	62	8	8	0

TABLE 5.15
FAMILY STUDIES 440
MODULE PARTICIPATION

Faculty	Number Completed or Partly Completed Module or No Prerequisite Courses	Number Completed or Partly Completed Module and Some Prerequisite Courses
B.Com.	0	0
B.Sc. H.Ec.	4	6
B.Ed.	5	0

TABLE 5.16
FAMILY STUDIES 440
MODULE EFFECTIVENESS
n=13

	(Responses given in percentages)				
	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Meeting Staged Objectives	8	69	15	8	0

TABLE 5.17
FAMILY STUDIES 440
MEETING STUDENT NEEDS BY INCREASING COMPETENCIES
n=13

	(Responses given in percentages)				
	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Module Increased Competency in Economics	15	62	23	0	0

Conclusion

Responses to problem statements 1 and 2 follow, based on the data presented in the preceding formative evaluation design of Family Studies 440.

Problem Statement 1: Are the innovative teaching/learning systems meeting the learning needs of students with varying academic and experiential backgrounds, and varying career aspirations?

Judgement: An analysis of the data indicated that the modularized system had exceeded the standard developed for meeting the learning needs of students with varying academic and experiential backgrounds, and varying career aspirations.

Problem Statement 2: Are the related learning materials meeting the learning needs of students with varying academic and experiential backgrounds, and varying career aspirations?

Judgement: An analysis of the data showed that the economics module fell slightly short of the standards developed for meeting the learning needs of students with varying academic and experiential backgrounds, and varying career aspirations.

Recommendations:

1. Resources be made available to revise the module according to the observations reported in the evaluation design.
2. Serious consideration be given to the following standard "50% of the students that do not have the prerequisite economics courses will purchase and complete or partly complete the module."

FAMILY STUDIES 444

Introduction

This section begins with a brief description of Family Studies 444, September 1979. Following this brief description is the detailed formative evaluation design that was based on the format suggested by the LSPE Design. The formative evaluation design was developed from problem statements 1 and 2 as they applied to Family Studies 440. The conclusion responds to problem statements 1 and 2, and recommendations are suggested.

Description

Family Studies 444, Methods in Family Services, is a review of methods involved in family life education in a community context with a special emphasis on program planning, interviewing, and the home economist's role in the helping process.

The course content was divided into twenty modules. These modules were not self-contained. Instead the readings were provided at appropriate places where students might do individual work. The activities in the modules emphasized group exercises and student conferences.

Therefore, in Family Studies 444, the innovative teaching/learning systems stated in problem statement 1, referred to the modularized system. The related learning materials stated in problem statement 2 referred to the modules. Following is a detailed design of the formative evaluation that was implemented in Family Studies 444 in order to respond to the formative evaluation questions as they applied to Family Studies 444.

INNOVATIVE PROJECT
FINAL FORMATIVE EVALUATION DESIGN
FAMILY STUDIES 444

	VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
ANTECEDENTS	A.1 Student population entry characteristics - academic background.	A.1 Student population description questionnaire (Appendix 10) administered in class in September by professor.	A.1 Student population will have varying academic backgrounds.	A.1.1 Analysis of the data from Appendix 10 showed that students reported varying academic backgrounds ranging from a reported mean GPA for third years of 6.59 to a reported mean GPA for first year of 5.91. Table 5.18 gives the results.
				A.1.2 Analysis of the data from Appendix 36 showed that individual students reported varying academic backgrounds ranging from a reported mean GPA of 5.10 to a mean GPA of 7.90. (Table 5.19).
	A.2 Student population entry characteristics - psychology courses background.	A.2 Student population description questionnaire (Appendix 10) adminstered in class in September by professor.	A.2 Student population will have a variety of psychology courses in their backgrounds.	A.2 Analysis of the data from Appendix 10 showed that individual students reported having a variety of psychology courses in their backgrounds. Three students had taken or were taking psychology courses. Table 5.20 gives the names of the courses and the final grades.

VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
A.3 Student population entry characteristics - Family Studies 359 (communication course).	A.3 Student population description questionnaire (Appendix 10) administered in class in September by professor.	A.3 Student population will be varied as to having Family Studies 359 in their programs.	A.3 Analysis of the data from Appendix 10 showed that individual students varied as to having Family Studies 359 in their programs. Seven of the students had taken or were taking Family Studies 359.
A.4 Student population entry characteristics - experience in program planning.	A.4 Student population description questionnaire (Appendix 10) administered in class in September by professor.	A.4 Student population will have had varying experience in program planning.	A.4 Analysis of the data from Appendix 10 showed that no students had experience in program planning. In discussion with the professor, she indicated that Family Studies 444 classes in previous years had reported varying experience in program planning. Furthermore, Family Studies 359 includes an introduction to program planning but this was not recognized or reported by the students.
A.5 Student population entry characteristics - experience in counseling.	A.5 Student population description questionnaire (Appendix 10) administered in class in September by professor.	A.5 Student population will have had varying experience in counseling.	A.5 Analysis of the data from Appendix 10 showed that 2 students had previous experience in counseling. Only one of these experiences were reported. The student reported that she had worked as a social worker for a summer.

	VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
TRANSACTIONS	T.1 Student involvement with modularized method of teaching/learning.	T.1 Focused group interviews were held with students on December 11 and 12 by an external interviewer. The students were informed of the interviews and requested to sign an interview schedule. The interviews lasted approximately 1 1/2 hours. The interview solicited the students' feelings and thoughts about the modularized methodology.	T.1.1 80% of the students rate the modularized method as effective, efficient and appropriate.	T.1.1 Results of the analysis of the data from Appendix 27, Focused Group Interviews is given in Table 5.2.1. A summary of students' perceptions regarding the modularized method of teaching/learning showed that the methodology was viewed positively overall with definite advantages.
		T.1.2 Questionnaires were given in early December by the evaluator, to the professor (Appendix 12) and to the 2 resource persons (Appendix 13).	T.1.2 The professor and 2 resource persons rate the modularized method of teaching/learning as effective, efficient and appropriate.	T.1.2 Analysis of the data from Appendices 12 and 13 indicated that the professor and 2 resource persons agreed that the modularized method of teaching/learning in this course was effective, efficient, and appropriate. These

	VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
				data support the general overall positive perception of the students towards the modularized method of teaching/learning.
	T.2 Student interactions with resource persons and professor.	T.2 Focused group interviews were held with the students on December 11 and 12 by an external interviewer. The students were informed of the interviews and requested to sign an interview schedule. The interviews lasted approximately 1 1/2 hours. The interview solicited the students' feelings and thoughts about the instructional staff.	T.2 80% of the students, the professor and the 2 resource persons rate the student-instructional staff interaction as satisfactory.	T.2 Results of the data from the Focused Group Interviews is given in Table 5.2.1. The students rated instructors' feedback as valuable. In addition, one group said they were very pleased with the instructors' feedback. An analysis of Appendices 12 and 13 indicated that the professor and 2 resource persons agreed that the interaction with the students was satisfactory.
O U T C O M E S	0.1 Modules are effective in that the stated objectives are met by students.	0.1 Module evaluations (Appendices 11) were placed in the classroom. Students were selected on a random basis, to complete 4 different module evaluations.	0.1 80% of the students will agree that they have met the stated objectives of the module.	0.1 Analysis of the data from Appendix 11 for each module, Question 17, showed that 80% of the students agreed that they had met thestated objectives for the following modules: 1N1, 1N2, 1N4, 1N6,1N7, 1N10, PP1, PP2, and PP3 (1N9 was optional).

VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
			The 80% level of agreement was not reached for the following modules: H.Ec. 1, 1N3, 1N5, 1N8, PP4, PP5, PP6, and PP7. Although the number of evaluation feedback sheets for each of these modules was limited, the entire module evaluation for each of these modules were analyzed to gain suggestions for revisions that would further facilitate the students in meeting the stated objectives of the modules. The evaluation feedback sheets for the effective modules: 1N1, 1N2, 1N4, 1N6, 1N7, 1N10, PP1, PP2 and PP3 because they were also limited in number, were also analyzed to gain suggestions in meeting the stated objectives of these modules. Furthermore, the results of Focused Group Interviews, given in Tables 5.21 and 5.22 were also considered for revisions.
0.2 Modules are meeting the needs of students in that they increase the students competencies.	0.2 Module evaluations (Appendix 11) were placed in the classroom. Students were selected on a random basis	0.2 80% of the students will agreed that each of the modules has increased their competency.	0.2 Analysis of the data from Appendix 11 for each module, Question 16 showed that 80% of the students agreed that the following modules had increased their competencies: 1N6, 1N8,

VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
	to complete 4 different module evaluations.		PP2, PP3, PP4 and PP6. The 80% level of agreement was not reached for the following modules: H.Ec.1, 1N1, 1N2, 1N3, 1N4, 1N5, 1N7, 1N10, PP1, PP5, and PP7 (1N9 was optional). Although the number of evaluation feedback sheets for each of these modules was limited, the entire module evaluation for each of these modules was analyzed to gain suggestions for revisions that would further facilitate the students in meeting the stated objectives of the modules. The evaluation feedback sheets for the effective modules: 1N1, 1N2, 1N4, 1N6, 1N7, 1N10, PP1, PP2 and PP3, because they were also limited in number, were also analyzed to gain suggestions for revisions that would further facilitate the students in meeting the stated objectives of these modules. Furthermore, the results of the Focused Group Interviews, given in Tables 5.21 and 5.22 were also considered.

TABLE 5.18

FAMILY STUDIES 444
STUDENT REPORTED ACADEMIC BACKGROUND
ACCORDING TO YEAR OF PROGRAM

Year of Program	Reported Mean GPA	Reported Minimum GPA	Reported Maximum GPA	Std. Dev.	Valid Cases
First	5.91	4.40	7.20	.87	17
Second	6.29	4.80	7.80	.85	17
Third	6.59	4.80	7.90	.94	15

TABLE 5.19

FAMILY STUDIES 444
INDIVIDUAL REPORTED ACADEMIC BACKGROUND

Reported GPA	Frequency
5.10	1
5.27	1
5.57	1
5.60	1
5.67	1
6.13	1
6.47	1
6.50	1
6.70	1
6.73	1
7.37	1
7.43	1
7.67	1
7.90	1
Mean 6.44	

TABLE 5.20

FAMILY STUDIES 444
PSYCHOLOGY BACKGROUND
n=4

Name of Course	Frequency	Final Grade
Ed. Psych 269	1	9
Ed. Psych 271	1	7
Ed. Psych 341	1	-
Ed. Psych 354	1	8
Ed. Psych 411	1	-
Ed. Psych ___	1	5

TABLE 5.21

FAMILY STUDIES 444
FOCUSED GROUP INTERVIEW DATA
ON MODULARIZED METHOD OF TEACHING/LEARNING

	Positives	Limitations	Suggestions
Introducing class			+ Class do one module together. *Mini-lecture introducing methodology to emphasize management and organizational skills. *Limit amount of material in first module.
Process	*Definite advantages. *Modules more effective, efficient method in long run. *Learning activities appropriate for different levels of experience. *Group work highly profitable. +*Following learning activities were valuable: written assignments, class feedback, video, audio, and instructors' feedback. *Very pleased with instructors' feedback.	+*If modularized, omit lectures or retitle lecture/modules. + Some exercises trival. + Great amounts of out-of-class time. + Too many group exercises. +*Check sheets did not serve purpose.	+ Combination of lecture, laboratory, and modules appropriate for some exercises. +*Revise group work to include group dynamics, well defined instructions, and applicable, realistic exercises.

	Positives	Limitations	Suggestions
Content	+*Program planning appropriate. +*Interviewing/microcounseling appropriate.	*Home Ec. module too "Ivory Towerish".	+ Exclude Home Ec. as a module and revise it as lecture and discussion. + Include glossary.
Mechanics	*Were satisfactory.		+ More information for students on equipment operation.
Revisions			*Make modules self-contained; include all readings and identify as compulsory and optional. + Arrange Program Planning and Interviewing separately. + Avoid students copying information.

* Focused Group Interview I - December 11 - 2 students
+ Focused Group Interview II - December 12 - 3 students

TABLE 5.22
FAMILY STUDIES 444
FOCUSED GROUP INTERVIEW DATA ON MODULES

HOME ECONOMICS I

	Positives	Limitations	Suggestions
Content	*History of Home Economics interesting. *History of Home Economics informative.	*Some trival information. *Too idealistic.	
Process	*Appropriate as module with suggested revisions.	*Too much reading.	+Lecture and discussion would be more appropriate.

INTERVIEWING MODULES

	Positives	Limitations	Suggestions
Content	*Modules good.	+Rework Module 1N7.	+Combine Module 1N2 and 1N3. +Combine Module 1N5 and 1N8.
Process	-	-	-

PROGRAM PLANNING

	Positives	Limitations	Suggestions
Content	+*Modules excellent.		+ Module PP5 could be more clear. +*Idenfity compulsory and optional learning activities. +*Include self-assessment tests. +*Include pre-tests. *Criterion tests should be given credit. + Not necessary for criterion tests to be credited.

*Focused Group Interview I - December 11 - 2 students
+Focused Group Interview II - December 12 - 3 students

Conclusion

Responses to problem statements 1 and 2 follow, based on the data presented in the preceding formative evaluation design of Family Studies 444.

Problem Statement 1: Are the innovative teaching/learning systems meeting the learning needs of students with vary academic and experiential backgrounds and varying career aspirations?

Judgement: An analysis of the data indicated that the modularized system did not meet the standards developed for meeting the learning needs of students with varying academic and experiential backgrounds, and varying career aspirations, in Family Studies 444.

Recommendations:

1. Serious consideration be given to the procedure and content used to introduce the modularized system to students. The introduction should explain the student and professor responsibilities, and course procedures.
2. Individual and group activities be analyzed according to purpose and emphasis.

Problem Statement 2: Are the related learning materials meeting the learning needs of students with varying academic and experiential backgrounds, and varying career aspirations?

Judgement: An analysis of the data indicated that some of the modules did not meet the standards developed for meeting the learning needs of students with varying academic and experiential backgrounds, varying career aspirations.

Recommendations:

1. Home Economics Module be deleted from the curriculum of this course and that its potential in other courses be investigated.
2. Resources be made available to revise the other modules, that did not meet the standards, using the judgements reported in the evaluation design.

FOODS AND NUTRITION 325/326

Introduction

This section begins with a brief description of Foods and Nutrition 325/326, September, 1979. Following this brief description is a detailed formative evaluation design that was based on the format suggested by the LSPE Design. The formative evaluation design was developed from problem statements 1 and 2 as they applied to Foods and Nutrition 325/326. The conclusion responds to problem statements 1 and 2 and recommendations are suggested.

Description

Foods and Nutrition 325/326, Introductory Nutrition 1, includes a study of carbohydrates, fats and proteins, and the role which minerals and vitamins play in their metabolism; food sources and requirements of man at various phases of the life cycle. Foods and Nutrition 325 is the laboratory course and Foods and Nutrition 326 is the non-laboratory version. A large number of students with varying backgrounds had been registering in this courses. In order to better meet the special interests and review or remediation needs of these students, a modularized component was added.

The modularized component consisted of three modules: Chemistry Concepts, Cell Physiology and Digestion and Absorption. The students were pre-tested on the content included in the three modules. If they received less than 80% of any one or more of the modules; the students had the option of working through the module(s) prior to the post test. Those receiving 80% or higher had the option of writing the post test again and they received the higher score on their course record.

In addition, a computer assisted instruction component (CAI) was included as one of the activities in Module 4. The CAI component was made available through the PLATO system.

Therefore, in Foods and Nutrition 325/326, the innovative teaching/learning systems stated in problem 1 referred to the modularized and CAI systems. The related learning materials stated in problem statement 2 referred to the modules. Following is a detailed design of the formative evaluation that was implemented in Foods and Nutrition 325/326 in order to respond to the formative evaluation questions as they applied in Foods and Nutrition 325/326.

INNOVATIVE PROJECT
FINAL FORMATIVE EVALUATION DESIGN
FOODS AND NUTRITION 325/326

	VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
ANTECEDENTS	A.1 Student population entry characteristics - academic background.	A.1 Student population description questionnaire (Appendix 15) administered in class in September by professor and evaluator.	A.1 Student population will have varying academic background.	A.1.1 Analysis of the data from Appendix 15 showed that the students reported varying academic backgrounds ranging from a reported mean GPA of 3 to a mean GPA of 9. Table 5.23 gives the results.
				A.1.2 Analysis of the data from Appendix 15 showed that students, when grouped according to faculties, reported varying academic backgrounds. The mean GPA for Education students was 6.24, B.Sc.H.Ec. students was 6.38, Nursing 6.97, PhyEd and Rec. was 6.29, B.Sc. Science was 7, Grad students was 7 and Special students was 7.5. Table 5.24 gives the results.
	A.2 Student population entry characteristics - faculty enrolment.	A.2 Student population description questionnaire (Appendix 15) adminis-	A.2 Student population will be enrolled in a variety of faculties.	A.2 Analysis of the data from Appendix 15 showed that students were enrolled in 6 different faculties. Table 5.25 gives the

VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
	tered in class in September by professor and evaluator.		results.
A.3 Student population entry characteristics - prerequisite courses.	A.3 Student population description questionnaire (Appendix 15) administered in class in September by professor and evaluator.	A.3 Student population will have varied prerequisite courses, either Chem 200, Chem 250, Physl. 260, 261 or 262 or equivalent.	A.3 Analysis of the data from Appendix 15 showed that 22 students had taken or were taking Chem 200, 59 students had taken or were taking Chem 250, 14 had taken or were taking Physl. 260, 23 had taken Physl. 261 and 16 had taken or were taking an equivalent course. Table 5.26 gives the results. Table 5.27 and 5.33 give the statitistics on the prerequisite courses according to faculties.
A.4 Student population entry characteristics - background in chemistry, cell physiology, and digestion and absorption.	A.4 Pre-tests covering subject material in chemistry, cell physiology, and digestion and absorption to be developed and administered by professor in September in class.	A.4 Students will have a varying knowledge base in chemistry, cell physiology, and digestion and absorption.	A.4 An analysis of the scores for the pre-tests for chemistry, cell physiology, and digestion and absorption showed the following. The lowest pre-test score for chemistry was 37% and the highest was 93%. The lowest pre-test score for cell physiology was 6% and the highest was 100%. The lowest pre-test score for digestion and absorption was 23% and the highest was 93%.

	VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
TRANSACTIONS	T.1 Student ratings of the use of modules in this course, i.e. student involvement with modularized method of teaching/learning.	T.1.1 Student questionnaire (Appendix 21) was administered in December in class by professor.	T.1.1 80% of the students will agree that the use of modules in this course was effective, efficient and appropriate.	T.1.1 An analysis of the data from Appendix 21, Questions 2, 3 and 4 yielded the following results: 58% of the students agreed that the use of modules in this course was effective, 54% of the students agreed that the use of modules in this course was efficient and 57% of the students agreed that the use of modules in this course was appropriate. Table 5.34 gives the results. The results from Appendix 21, Question 7 (Table 5.39) supported the effectiveness of the modules in that 80% of the students agreed that the modules had provided a background or foundation for the projects introduced later in the course. In addition, the results from Appendix 11 for each module supported the effectiveness of the modules. The results from Appendix 18 (Table 5.38) and Appendix 21, Question 9 and 10 (Table 10 were examined. These data showed that the students had experienced considerable frustration with the PLATO system because it was down for several days when they were scheduled to complete their programs.

VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
	T.1.2 Resource person questionnaire (Appendix 19) was delivered in December by evaluator.	T.1.2 The two resource persons will agree that the use of modules in this course was effective, efficient and appropriate.	T.1.2 An analysis of the data from Appendix 19, Questions 2, 3 and 4 showed that both resource persons agreed that the use of modules in this course was effective, efficient and appropriate.
	T.1.3 Professor questionnaire (Appendix 20) was delivered in December by evaluator.	T.1.3 The professor will agree that the use of modules in this course was effective, efficient and appropriate.	T.1.3 An analysis of the data from Appendix 20, Question 23 and 4 showed that the professor agreed that the use of modules in this course was effective, efficient and appropriate.
T.2 Student interaction with resource persons.	T.2.1 Student questionnaire (Appendix 21) was administered in December in class by professor.	T.2.1 80% of the students will agree that resource persons were readily available for consultation when students were doing the modules.	T.2.1 An analysis of the data from Appendix 21, Question 5, showed that 30% of the students agreed that resource persons were readily available for consultation when they were doing the modules, 59% were uncertain and 11% disagreed. Ten of the students commented that they did not require consultation.
	T.2.2 Resource person questionnaire (Appendix 19) was de-	T.2.2 The two resource persons will agree that they were	T.2.2 An analysis of the data from Appendix 19, Question 5, showed that both resource per-

	VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
		livered in December by evaluator.	readily available for consultation when students were doing the modules.	sons agreed that they were readily available for consultation when students were doing the modules.
		T.2.3 Professor questionnaire (Appendix 20) was delivered in December by evaluator.	T.2.3 The professor will agree that the resource persons were readily available for consultation when students were doing the modules.	T.2.3 An analysis of the data from Appendix 20, Question 5, showed that the professor agreed that the resource persons were readily available for consultation when students were doing the modules.
OUTCOMES	0.1 Modules are effective in that the stated objectives are met by the students.	0.1 Module evaluations (Appendix 11 were included in the modules. Students were requested to remove the evaluations and hand the evaluations in to the professor and resource persons.	0.1.1 80% of the students will agree that they have met the stated objective of the module.	0.1.1 Analysis of the data from Appendix 22 for each module, Question 3 showed that 80% of the students agreed that they had met the stated objectives in Module 2: Chemistry Concepts, and Module 3: Cell Physiology. Only 64% agreed that they had met the stated objectives of Module 4: Digestion and Absorption. The results are presented in Tables 5.35 to 5.37. Analysis of the data from Appendix 18, which is reported in Table 5.38 was examined. In the comments, 45% of the students reported on the malfunctioning of the PLATO system. Furthermore, the analysis of Appendix 21, Ques-

VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
			tion 9 and 10 raised questions of the PLATO system. Table 5.40 gives the results.
	0.1.2 Student questionnaire (Appendix 21) was administered in December in class by professor.	0.1.2 80% of the students will agree that the modules provided a background or foundation for the subjects introduced later in the course.	0.1.2 An analysis of the data from Appendix 21, Question 7, showed that 89% agreed that Module 2: Chemistry Concepts provided a background or foundation for the subjects introduced later in the course, 94% agreed that Module 3: Cell Physiology provided a background or foundation for the subjects introduced later in the course and 98% agreed that Module 4: Digestion and Absorption provided a background or foundation for the subjects introduced later in the course.
0.2 Modules are meeting the needs of students in that they increase students' competencies.	0.2 Module evaluations (Appendix 11) were included in the modules Students were requested to remove the evaluations and hand them in to the	0.2.1 80% of the students will agree that each of the modules had increased their competency.	0.2.1 Analysis of the data from Appendix 11 for each module, Question 18, showed that 80% of the students agreed that the modules had each increased their competency. The results are given in Tables 5.41 to 5.43.

VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
	professor or a resource person.		
	0.2.2 Student questionnaire (Appendix 21) was administered in December in class by professor.	0.2.2 80% of the students will agree that the use of modules in this course allowed them to increase their competencies.	0.2.2 An analysis of the data from Appendix 21, Question 1 showed that 49% of the students agreed that the use of modules in this course allowed them to increase their competencies according to their own need, 22% were uncertain and 10% disagreed. Only 10% disagreed that the use of modules in this course did not allow them to increase their competencies according to their own needs.
0.3 Modules are meeting the needs of students in that they are made available to those students who desire information on chemistry, cell physiology, and digestion and absorption.	0.3 Post-tests covering subject material in chemistry, cell physiology, and digestion and absorption were developed and administered by the professor in class approximately three weeks after the pre-test.	0.3 Those students that did not achieve 80% on the pre-tests had the opportunity to write the post-test. The highest grade of the two would be recorded.	0.3 An analysis of the pre-test scores and post-test scores is given in Table 5.44. Fifty-one students out of 112 received 80% or more than 80% on the post-test for Module 2: Chemistry Concepts. Fifty-five students out of 96 received 80% or more than 80% on the post-test for Module 3: Cell Physiology and 50 out of 124 received 80% or more than 80% on the post-test for Module 4: Digestion and Absorption.

TABLE 5.23

FOODS AND NUTRITION 325/326
STUDENT ACADEMIC BACKGROUND
ACCORDING TO INDIVIDUAL REPORTED GPAs
n=89

Reported Mean GPA	Frequency of Report
3	3
4	1
5	6
6	28
7	41
8	11
9	1

TABLE 5.24

FOODS AND NUTRITION 325/326
STUDENT ACADEMIC BACKGROUND
ACCORDING TO FACULTY

Faculty	Reported Mean GPA	Reported Minimum GPA	Reported Maximum GPA	Std. Dev.	Number of Cases
Education	6.24	3	8	1.14	21
B.Sc.H.Ec.	6.38	5	8	1.02	21
Nursing	6.97	6	9	0.72	34
Phys.Ed. & Rec.	6.29	5	7	0.76	7
B.Sc. Science	7	7	7	0	3
Grad Studies	7	7	7	0	1
Special Students	7.5	7	8	0.71	2

TABLE 5.25

FOODS AND NUTRITION 325/326
FACULTY ENROLLMENT
n=100

Faculty	Frequency of Report
Education	22
B.Sc. H.Ec.	25
Nursing	38
Phys. Ed. & Rec.	9
Science	3
Grad Studies	1
Special Students	2

TABLE 5.26

FOODS AND NUTRITION 325/326
PREREQUISITE COURSES
n=124

Courses	Frequency
Chem 200	22
Chem 250	59
Physl 260	14
Physl 261	23
Physl 262	2
Others	4

TABLE 5.27

FOODS AND NUTRITION 325/326
FREQUENCIES FOR PREREQUISITE COURSES FOR FACULTY OF EDUCATION
n=22

Courses	(Responses given in percentages) Taken or Taking	Not Taken or Not Taking	Not Reported
Chem 200	41	37	23
Chem 250	5	95	0
Physl 260	5	95	0
Physl 261	0	82	18
Physl 262	0	82	18

TABLE 5.28

FOODS AND NUTRITION 325/326
FREQUENCIES FOR PREREQUISITE COURSES FOR FACULTY OF HOME ECONOMICS
n=25

Courses	(Responses given in percentages) Taken or Taking	Not Taken or Not Taking	Not Reported
Chem 200	12	44	44
Chem 250	100	0	0
Physl 260	5	100	0
Physl 261	0	84	16
Physl 262	0	84	16

TABLE 5.29

FOODS AND NUTRITION 325/326
FREQUENCIES FOR PREREQUISITE COURSES FOR FACULTY OF NURSING
n=38

Courses	(Responses given in percentages) Taken or Taking	Not Taken or Not Taking	Not Reported
Chem 200	21	74	5
Chem 250	19	76	5
Physl 260	8	76	16
Physl 261	61	37	3
Physl 262	3	68	29

TABLE 5.30

FOODS AND NUTRITION 325/326
FREQUENCIES FOR PREREQUISITE COURSES FOR
FACULTY OF PHYSICAL EDUCATION
n=9

Courses	(Responses given in percentages) Taken or Taking	Not Taken or Not Taking	Not Reported
Chem 200	0	89	11
Chem 250	11	89	0
Physl 260	100	0	0
Physl 261	0	78	22
Physl 262	0	78	22

TABLE 5.31

FOODS AND NUTRITION 325/326
FREQUENCIES FOR PREREQUISITE COURSES FOR
FACULTY OF SCIENCE
n=3

Courses	(Responses given in percentages) Taken or Taking	Not Taken or Not Taking	Not Reported
Chem 200	67	33	0
Chem 250	100	0	0
Physl 260	0	67	33
Physl 261	0	67	33
Physl 262	0	67	33

TABLE 5.32

FOODS AND NUTRITION 325/326
FREQUENCIES FOR PREREQUISITE COURSES FOR FACULTY OF GRADUATE STUDIES
n=1

(Responses given in percentages)

Courses	Taken or Taking	Not Taken or Not Taking	Not Reported
Chem 200	0	100	0
Chem 250	0	100	0
Physl 260	100	0	0
Physl 261	0	0	100
Physl 262	0	0	100

TABLE 5.33

FOODS AND NUTRITION 325/326
FREQUENCIES FOR PREREQUISITE COURSES FOR SPECIAL STUDENTS
n=2

(Responses given in percentages)

Courses	Taken or Taking	Not Taken or Not Taking	Not Reported
Chem 200	0	50	50
Chem 250	100	0	0
Physl 260	0	50	50
Physl 261	0	50	50
Physl 262	50	50	0

TABLE 5.34

FOODS AND NUTRITION 325/326
STUDENT RATINGS OF USE OF MODULES
n=65

(Responses given in percentages)

Variable	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Use of module was effective	12	46	23	16	3
Use of module was efficient	9	46	22	17	6
Use of module was appropriate	13	45	23	16	3

TABLE 5.35

FOODS AND NUTRITION 325/326
MODULE 2: CHEMISTRY CONCEPTS
REPORTED OBJECTIVE ATTAINMENT
n=74

	(Responses given in percentages)				
Faculty	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Education 15%	0	82	18	0	0
B.Sc. H.Ec. 26%	21	63	11	5	0
Nursing 24%	16	47	21	11	5
Phys Ed & Rec 5%	0	100	0	0	0
B.Sc. Science 0%	0	0	0	0	0
Grad Studies 1%	0	100	0	0	0
Special Students 0%	0	0	0	0	0
Total Combined Reponse 100%	12	68	15	4	1

6

TABLE 5.36

FOODS AND NUTRITION 325/326
MODULE 3: CELL PHYSIOLOGY
REPORTED OBJECTIVE ATTAINMENT
n=68

	(Responses given in percentages)				
Faculty	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Education 21%	29	43	29	0	0
B.Sc. H.Ec. 29%	25	55	10	10	0
Nursing 25%	24	53	24	0	0
Phys Ed & Rec 6%	25	50	25	0	0
B.Sc. Science 0%	0	0	0	0	0
Grad Studies 1%	100	0	0	0	0
Special Students 0%	0	0	0	0	0
Total Combined Reponse 100%	23	57	17	3	0

TABLE 5.37

FOODS AND NUTRITION 325/326
MODULE 4: DIGESTION AND ABSORPTION
REPORTED OBJECTIVE ATTAINMENT
n=12

(Responses given in percentages)

Faculty	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Education 25%	0	33	0	67	0
B.Sc. H.Ec. 33%	25	75	0	0	0
Nursing 42%	60	0	40	0	0
Phys Ed & Rec 0%	0	0	0	0	0
B.Sc. Science 0%	0	0	0	0	0
Grad Studies 0%	0	0	0	0	0
Special Students 0%	0	0	0	0	0
Total Combined Reponse 100%	8	58	17	17	0

TABLE 5.38

FOODS AND NUTRITION 325/326 PLATO EVALUATION

	(Responses given in percentages) n=29				
Faculty	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
1. The terminals were easy to locate.	52	41	0	7	0
2. The room location was suitable.	38	52	0	10	0
3. Instructions for "signing on" to the computer were explicit.	31	52	7	7	3
4. After signing on, the instructions given in the program were explicit.	28	55	10	0	7
5. The Plato program "The Human Digestive System" was an appropriate learning activity for Module 4: Digestion and Absorption.	39	39	12	8	4
6. The Plato program enabled me to meet the learning objectives for Module 4: Digestion and Absorption.	11	41	26	11	11
7. The program was an appropriate length.	20	44	28	4	4

Faculty	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
	(Responses given in percentages) n=29				
8. The program was stimulating.	27	39	19	0	15
9. The resource person was easily accessible.	30	33	19	15	4
10. You would like to do additional computer assisted instruction.	41	19	15	7	19

Comments:	Frequency of Mention
positives	
interesting	3
limitations	
no time for notetaking	1
computer malfunctioning	13

TABLE 5.39

FOODS AND NUTRITION 325/326
REPORT AT COURSE COMPLETION
OF BACKGROUND OR FOUNDATION PROVIDED BY
MODULES FOR REMAINDER OF COURSE
n=65

	(Responses given in percentages)				
Module	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Module 2: Chemistry Concepts	6	36	47	6	5
Module 3: Cell Physiology	13	55	27	6	0
Module 4: Digestion and Absorption	23	48	26	2	0

TABLE 5.40

FOODS AND NUTRITION 325/326
PLATO EVALUATION AT COURSE COMPLETION
n=28

	(Responses given in percentages)				
Characteristic	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
PLATO appropriate for this course	21	32	11	25	11
PLATO was valuable	29	21	14	18	18

TABLE 5.41

FOODS AND NUTRITION 325/326
MODULE 2: CHEMISTRY CONCEPTS
REPORT ON MODULE HELPFULNESS IN INCREASING COMPETENCIES
n=74

	(Responses given in percentages)				
Faculty	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Education 15%	0	73	18	9	0
B.Sc. H.Ec. 26%	21	58	16	0	5
Nursing 24%	37	47	11	5	0
Phys Ed & Rec 15%	50	50	0	0	0
B.Sc. Science 0%	0	0	0	0	0
Grad Studies 1%	0	100	0	0	0
Special Students 0%	0	0	0	0	0
Total Combined Reponse 100%	27	55	14	3	1

TABLE 5.42

FOODS AND NUTRITION 325/326
MODULE 3: CELL PHYSIOLOGY
REPORT ON MODULE HELPFULNESS IN INCREASING COMPETENCIES
n=68

(Responses given in percentages)

Faculty	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Education 21%	14	64	21	0	[illegible]
B.Sc. H.Ec. 29%	30	60	0	5	5
Nursing 25%	12	77	12	0	0
Phys Ed & Rec 6%	50	50	0	0	0
B.Sc. Science 0%	0	0	0	0	0
Grad Studies 1%	0	100	0	0	0
Special Students 0%	0	0	0	0	0
Total Combined Reponse 100%	19	74	4	2	2

TABLE 5.43

FOODS AND NUTRITION 325/326
MODULE 4: DIGESTION AND ABSORPTION
REPORT ON MODULE HELPFULNESS IN INCREASING COMPETENCIES

n=12

	(Responses given in percentages)				
Faculty	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Education 25%	67	0	33	0	0
B.Sc. H.Ec. 33%	0	100	0	0	0
Nursing 42%	40	60	0	0	0
Phys Ed & Rec 10%	0	0	0	0	0
B.Sc. Science 0%	0	0	0	0	0
Grad Studies 0%	0	0	0	0	0
Special Students 0%	0	0	0	0	0
Total Combined Reponse 100%	33.3	58.3	8.3	0	0

TABLE 5.44

FOODS AND NUTRITION 325/326

PRE AND POST-TEST SCORES

Module	Pre-Test score higher than 80% n= 147	Did not write Post-Test	Post-Test score same as Pre-Test	Post-Test score 80% or higher	Post-Test score lower than 80%
Module 2: Chemistry Concepts	n=33 22%	n=8 24%	n=5 15%	n=12 36%	n=8 24%
Module 3: Cell Physiology	n=49 33%	n=15 31%	n=21 24%	n=8 16%	n=14 29%
Module 4: Digestion and Absorption	n=21 14%	n=16 76%	n=1 5%	n=3 14%	n=1 5%

Module	Pre-Test score lower than 80% n= 147	Did not write Post-Test	Post-Test score 80% or higher	Post-Test score lower than 80%
Module 2: Chemistry Concepts	n=112 76%	n=4 4%	n=47 42%	n=60 54%
Module 3: Cell Physiology	n=96 65%	n=4 4%	n=53 55%	n=39 41%
Module 4: Digestion and Absorption	n=124 84%	n=9 7%	n=58 47%	n=57 46%

TABLE 5.44

FOODS AND NUTRITION 325/326

PRE AND POST-TEST SCORES

Module	Did not write Pre-Test n=147	Post-Test score 80% or higher	Post-Test score lower than 80%
Module 2: Chemistry Concepts	n=2 1%	n=1 50%	n=1 50%
Module 3: Cell Physiology	n=2 1%	n=1 50%	n=1 50%
Module 4: Digestion and Absorption	n=2 1%	n=0 0%	n=2 100%

Conclusion

Responses to problem statements 1 and 2 follow, based on the data presented in the preceding formative evaluation design of Foods and Nutrtion 325/326.

Problem Statement 1: Are the innovative teaching/learning systems meeting the learning needs of students with vary academic and experiential backgrounds and varying career aspirations?

Judgement: An analysis of the data indicated that the modularized and CAI systems fell short of the standards developed for meeting the learning needs of students with varying academic and experiential backgrounds, and varying career aspirations in Foods and Nutrition 325/326.

Recommendations:

1. Resources to be allocated to ensure the PLATO system is functioning effectively next year.
2. The modularized system be worked on using the information from the observations judgements reported in the evaluation design.

Problem Statement 2: Are the related learning materials meeting the learning needs of students with varying academic and experiential backgrounds, and varying career aspirations?

Judgement: An analysis of the data indicated that modules 2 and 3 had met the standards developed for meeting the learning needs of students with varying academic and experiential backgrounds, and varying career aspirations in Foods and Nutrition 325/326.

Recommendation: Module 4 be revised according to the observations reported in the evaluation designs.

CHAPTER 6

SUMMATIVE EVALUATION - 1980

INTRODUCTION

The summative evaluation of the Learning Systems Project was conducted from September 1980 to December 1980. The problem statements for the summative evaluation were formulated from the seven "criteria for success" for the project that had been developed and identified by the three project leaders in the original project proposal. The problem statements for the summative evaluation were:

1. Are the innovative teaching learning systems further meeting the learning needs of students with varying academic and experiential backgrounds, and varying career aspirations?
2. Are the related teaching materials further meeting the learning needs of students with varying academic and experiential backgrounds, and varying career aspirations?
3. Has there been increased awareness and utilization of innovative/teaching learning systems and related materials throughout the Faculty of Home Economics?
4. Have efforts been made to share the innovative teaching/learning systems and related materials with sister institutions.

Problems statements 1 and 2 were used for designing the summative evaluation of each of the selected courses: Clothing and Textiles 309, Family Studies 440, Family Studies 444, and Foods and Nutrition 325/326.

The focus of this chapter is on the summative evaluation that was conducted in each of the selected courses. First of all, a brief description of each course is given. This course description is followed by the detailed evaluation design that was based on the format suggested by LSPE Design. Copies of the appendices referred to in each of the designs are included in the appendix. In each of the designs, the antecedents provided data that were used in describing the students' varying academic and experiental backgrounds, and varying career aspirations. The transactions provided data to be used in responding to problem statement 1, while the outcomes provided data to be used in responding to problem statement 2.

However, there are no responses provided to problem statements 1 and 2 in this chapter. There are presented in Chapter 7, Research Discussion - 1981. In Chapter 7, summary statements presented in a format based on the LSPE Design are included for each of the selected courses. The observation column of the summary statements has been expanded to combine the data from the formative 1979 evaluation, with the summative 1980 evaluation. Thus, the observation column has become summative observations based on observations from 1979 and 1980. Following the summary statements for each course, there is a conclusion section that reviews aspects of the course that are relevant for understanding and interpreting the conclusions. The conclusions to problem statements 1 and 2 follow next and then the judgement and recommendation sections are discussed.

Problem statements 3 and 4, that were previously stated, were used for designing the summative evaluation for the overall project. A simplistic evaluation design, based the LSPE Design, is presented in this chapter following the evaluation designs for each of the selected courses. In Chapter 7, Research Discussion - 1981, the responses to problem statements 3 and 4 are discussed and judgements and recommendations are included.

CLOTHING AND TEXTILES 309

Introduction

This section begins with a brief description of Clothing and Textiles 309, September, 1980. Following this brief description is the detailed summative evaluation design that was based on the format suggested by the LSPE Design. The summative evaluation was developed from problem statements 1 and 2 as they applied to Clothing and Textiles 309. However, there are no responses to these problem statements in this chapter. They are presented in Chapter 7, Research Discussion - 1981.

Description

The course description for Clothing and Textiles 309, September 1980, was the same as the one given for September 1979 in Chapter 5, Formative Evaluation and the course content was still contained in thirteen modules. However, the computer managed system changed from the Southern Alberta Institute of Technology (SAIT) to the PLATO system which meant that a new system was being implemented and that recommendations for the SAIT system could not be applied. In addition, the professor and resource persons had changed.

Therefore, in Clothing and Textiles 309, the innovative teaching/learning systems stated in problem statement 1 referred to the modularized and CML systems. The related learning materials stated in problem statement 2 referred to the modules. Following is a detailed design of the summative evaluation that was implemented in Clothing and Textiles 309 in order to respond to the summative evaluation questions as they applied to Clothing and Textiles 309.

INNOVATIVE PROJECT
EVALUATION DESIGN 1980
CLOTHING AND TEXTILES 309

	VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
ANTECEDENTS	A.1 Student population entry characteristics - academic background.	A.1 Student population description questionnaire (Appendix 1) administered in class in September by evaluator.	A.1 Student population will have varying academic background.	A.1 Analysis of the data from Appendix 1 showed that students reported varying academic backgrounds ranging from a reported mean GPA of 2.00 to a reported mean GPA of 7.30. Table 6.1 gives the results.
	A.2 Student population entry characteristics - faculty enrolment.	A.2 Student population description questionnaire (Appendix 1) administered in class in September by evaluator.	A.2 Student population will be enrolled in a variety of faculties.	A.2 Analysis of the data from Appendix 1 showed that 29 students were enrolled in Education, 55 students in Home Economics and 4 were Grad students. Table 6.2 gives the results.
	A.3 Student population entry characteristics - major area of study.	A.3 Student population description questionnaire (Appendix 1) administered in class in September by evaluator.	A.3 Student population will be enrolled in a variety of major areas of study.	A.3 Analysis of the data from Appendix 1 showed that the 29 Education students had a major area of study in Home Economics Education. Of the 55 students enrolled in Home Economics, 44 had a major area of study in CLTX and 1 had a major in Fam. Stu. There were also 4 Grad students.

	VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
ANTECEDENTS	A.4 Student population entry characteristics - year of program.	A.4 Student population description questionnaire (Appendix 1) administered in class in September by evaluator.	A.4 Student population will be enrolled in a variety of years of program.	A.4 Analysis of data from Appendix 1 showed that 2 students were in the first year of their program, 43 in the second, 24 in the third, 6 in the fourth and 1 in the fifth year.
	A.5 Student population entry characteristics - Chemistry 200 and/or Chemistry 250 in background.	A.5 Student population description questionnaire (Appendix 1) administered in class in September by evaluator.	A.5 Student population will be varied in chemistry background in relation to Chemistry 200 and Chemistry 250.	A.5 Analysis of the data from Appendix 1 showed that 8 students had completed or were completing Chemistry 200 and Chemistry 250. A further 63 students had completed or were completing Chemistry 250 and 4 reported that they had not or were not taking either Chemistry 200 or 250. Table 6.3 gives the results.
	A.6 Student population entry characteristic - attitude towards textile science.	A.6 Pre-attitude scale (Appendix 2) was administered in class in September by evaluator.	A.6 Student population will have a range of attitudes towards textile science.	A.6 Analysis of the data from Appendix 2 showed that the total student population reported a range of rating for each of the attitude statements and for each of the pairs in the attitude scale. Similarily, when the total sample was grouped into B.Ed. students, B.Sc.H.Ec. Cl.Tx. students and B.Sc.H.Ec.Fam.Stu. students, each of these groups

	VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
				reported a range of rating for each of the attitude statements and for each of the pairs in the attitude scale (Table 6.4).
	A.7 Student population entry characteristic - competency in textile science.	A.7 Pre-Competency Rating Scale (Appendix 3) was adminstered in class in September by evaluator.	A.7 Student population will have a range of ratings (from 1 high to 5 low) on the 14 competencies for the course.	A.7 Analysis of the data from Appendix 3 showed that the total student population reported a range in each of the competencies. Similarly, when the total sample was grouped into B.Ed. students, B.Sc.H.Ec.Cl.Tx. students and B.Sc.H.Ec.Fam.Stu. students, each of these groups reported a range in each of the competencies (Table 6.5).
T R A N S A	T.1 Student involvement with modularized method of teaching/learning.	T.1.1 Student questionnaire (Appendix 6) was administered in class in December by evaluator.	T.1.1 80% of the students will agree that the use of modules in this course was effective, efficient and appropriate.	T.1.1 An analysis of the data Appendix 06, Questions 2,3, and 4, showed the following: 94% of the students agreed that the use of modules in this course was effective, 87% of the students agreed that the use of modules in this course was efficient, and 87% of the students agreed that the use of modules in this course was appropriate. Table 5.6 gives the results.

CTIONS

VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
	T.1.2 Resource person questionnaire (Appendix 7) was delivered in December by evaluator.	T.1.2 The 2 resource persons will agree that the use of modules in this course was effective, efficient and appropriate.	T.1.2 An analysis of the data from Appendix 7, Questions 1, 2, and 3, showed that both resource persons agreed that the use of modules in this course was effective and efficient. Only one of the two resource persons rated the use of modules in this course as appropriate.
	T.1.3 Professor questionnaire (Appendix 5) was delivered in December by evaluator.	T.1.3 The professor will agree that the use of modules in this course was effective, efficient and appropriate.	T.1.3 An analysis of the data from Appendix 5, Questions 1, 2, and 3, showed that the professor strongly agreed that the use of modules in this course was effective, efficient, and appropriate.
T.2 Student involvement with CML system in this course.	T.2.1 Student questionnaire (Appendix 6) was administered in class in December by evaluator.	T.2.1 80% of the students will agree that the use of CML in this course was efficient, effective (it allowed self-pacing and self-tracking), and appropriate.	T.2.1 An analysis of the data from Appendix 6, Questions 5, 6, 7, 8, and 9 showed the following: 83% of the students agreed that the use of CML in this course allowed efficient access to self-testing. 86% of the students agreed that the use of CML in this course allowed self-pacing and 89% of the students agreed that the use of CML allowed self-tracking. 89% of the

VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
			students agreed that the use of CML was appropriate and 86% agreed that CML was an enjoyable experience. Table 6.7 gives the results.
	T.2.2 Resource person questionnaire (Appendix 7) was delivered in December by evaluator.	T.2.2 The 2 resource persons will agree that the use of CML in this course was effective, efficient and appropriate.	T.2.2 An analysis of the data from Appendix 7, Questions 4, 5, and 6, showed that one resource person agreed that the use of CML in this course was effective, efficient and appropriate. The other resource person was uncertain about the effectiveness and appropriateness of the use of CML. In addition, this person strongly disagreed with the efficiency of the use of CML in this course.
	T.2.3 Professor questionnaire (Appendix 5) was delivered in December by evaluator.	T.2.3 The professor will agree that the use of CML in this course was effective, efficient and appropriate.	T.2.3 An analysis of the data from Appendix 5, Questions 4, 5, and 6, showed that the professor strongly agreed that the use of CML in this course was effective, efficient, and appropriate.
T.3 Student interactions with other students.	T.3 Student questionnaire (Appendix 6) was administered in class in December	T.3 80% of the students will agree that their interactions with other students	T.3 An analysis of the data from Appendix 6, Question 10, showed that 75% of the students agreed that their interactions with other

VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
	by evaluator.	are satisfactory.	students were satisfactory. Twenty one percent of the students were uncertain about the satisfaction of their interactions with other students and only 4% of the students disagreed that their interactions with other students had not been satisfactory.
T.4 Student interaction with resource persons.	T.4.1 Student questionnaire (Appendix 6) was administered in class in December by evaluator.	T.4.1 80% of the students will agree that their interaction with the resource persons are satisfactory.	T.4.1 An analysis of the data from Appendix 6, Question 11, showed that 70% agreed their interactions with the resource persons were satisfactory. Fifteen percent of the students were uncertain about the satisfaction of their interactions with the resource persons and only 15% of the students disagreed that their interactions with the resource persons were satisfactory.
	T.4.2 Resource person questionnaire (Appendix 7) was delivered in December by evaluator.	T.4.2 The 2 resource persons will agree that their interactions with the students are satisfactory.	T.4.2 An analysis of the data from Appendix 7, Question 8, showed one resource person agreed that the interaction with students was satisfactory and that one person disagreed that the interaction with students was satisfactory.

	VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
	T.5 Student interaction with the professor.	T.5.1 Student questionnaire (Appendix 6) was administered in class in December by evaluator.	T.5.1 80% of the students will agree that their interaction with the professor are satisfactory.	T.5.1 An analysis of the data from Appendix 6, Question 12, showed that 54% of the students agreed that their interactions with the professor were satisfactory. Seventeen percent of the students were uncertain about the satisfaction of their interaction with the professor and 28% disagreed that their interaction with the professor was satisfactory.
		T.5.2 Professor questionnaire (Appendix 5) was delivered in December by evaluator.	T.5.2 The professor will agree that her interactions with the students are satisfactory.	T.5.2 An analysis of the data from Appendix 5, Question 8, showed that the professor strongly agreed that her interactions with the students in her laboratory sections were satisfactory. She felt she could not rate her interactions with the other students. The professor was the resource person for 3 laboratory sections which included approximately half the students.
O U T -	0.1 Modules are effective in that they are rated as valuable at the completion of the	0.1.1 Student questionnaire (Appendix 6) was administered in class in December by evaluator.	0.1.1 80% of the students will agree each module is valuable, either yes or somewhat, at the	0.1.1 An analysis of the data from Appendix 6 showed that from 91 to 100% of the students agreed that each module was valuable, either yes or somewhat, at the

	VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
C O	course.		completion of the course.	completion of the course. Table 6.8 gives the results.
M E S		0.1.2 Resource person questionnaire (Appendix 7) was delivered in December by evaluator.	0.1.2 The 2 resource persons will agree that each module is valuable, either yes or somewhat.	0.1.2 An analysis of the data from Appendix 7, Question 13, showed that both resource persons rated each of the modules as valuable.
	0.2 Modules are effective in that the stated objectives are met by the students.	0.2 Modules evaluations (Appendix 11) were placed in the laboratory. The students were requested to hand in 4 evaluations. These 4 were selected on a random basis from the total number of modules. A chart was placed in the laboratory with the students' names and the evaluations they were to complete.	0.2 80% of the students will agree that they have met the stated objectives of the module.	0.2 An analysis of the data from from Appendix 11 for each module, Question 3, showed that from 83% to 96% of the students agreed that they had met the stated objectives of modules, all the modules from 1 to 12 inclusive. Seventy-three percent of the students agreed that they had met the stated objectives of module 13 and 27% of the students were uncertain.

VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
0.3 Modules are meeting the needs of students in that they increase students' competencies.	0.3.1 Module evaluations (Appendix 11) were placed in the laboratory. The students were requested to hand in 4 evaluations. These 4 were selected on a random basis from the total number of modules. A chart was placed in the laboratory with the students' names and the evaluations they were to complete.	0.3.1 80% of the students will agree that each of the modules has increased their competencies.	0.3 An analysis of the data from Appendix 11 for each module, Question 18, showed that from 84% to 100% of the students agreed that all of the modules from 1 to 12 were helpful in increasing their competencies. There was 100% agreement by the students on rating modules 4, 8, and 9. Fifty percent of the students agreed that module 13 was helpful in increasing their competencies, 18% of the students were uncertain, and 32% disagreed that module 13 was helpful in increasing their competencies.
	0.3.2 Student questionnaire (Appendix 6) was administered in class in December by evaluator.	0.3.2 80% of the students will agree that the use of modules in this course allowed them to increase their competencies according to their own needs.	0.3.2 An analysis of the data from Appendix 6, Question 1, showed that 94% of the students did agree that the use of modules in this course allowed them to increase their competencies according to their own needs, 4% were uncertain, and 2% disagreed.
0.4 Student population exit characteristics - attitude toward textile science.	0.4 Post-attitude scale (Appendix 2) was administered in class in December by evaluator and the	0.4 Student population post-attitude scale will not indicate a significantly more negative atti-	0.4 An analysis of the data from Appendix 2 showed that the total student population did not indicate a significantly more negative attitude toward textile science

VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
	results were compared with the results from the pre-attitude scale that was administered in class in September by evaluator.	tude towards textile science than pre-attitude scale.	on any of the attitude statements or pairs in the attitude scale, between post and pre ratings (Tables 6.4). The total student population indicated a significantly more positive attitude toward textile science on numbers 1, 4, 5, 10, 11, and 14 of the attitude statements and on pairs 15, 18, 19, 21, and 22 of the attitude pairs.
0.5 Student population exit characteristics - competency in textile science.	0.5 Post-competency Rating Scale (Appendix 3) was administered in class in December by evaluator and the results were compared with the results from the Pre-Competency Rating Scale that was administered in class in September by the evaluator.	0.5 Student population will not self-rate themselves significantly less competent on any of the fourteen competencies.	0.5 Analysis of the data from Appendix 3 showed that the total student population did not self-rate themselves significantly less competent on any of the 14 competencies between post and pre-ratings (Table 6.5). The total student population self-rated themselves significantly higher on competencies 1, 6, and 7.

TABLE 6.1

CLOTHING AND TEXTILES 309

ACADEMIC BACKGROUND IN PREVIOUS YEARS

Year of Program	Reported Mean GPA	Reported Minimum GPA	Reported Maximum GPA	Std. Dev.	Valid Cases
First	5.99	2.00	8.10	1.17	61
Second	6.22	4.90	7.30	.67	25
Third	6.08	5.10	7.30	.93	4

TABLE 6.2

CLOTHING AND TEXTILES 309

STUDENT ENROLLMENT ACCORDING TO FACULTY

Faculty	Frequency
Education	27
B.Sc. H.Ec.	55
B. Comm.	0
Grad.	4
Total	88

TABLE 6.3

CLOTHING AND TEXTILES 309

STUDENT REPORTED CHEMISTRY BACKGROUND

n=75

Course(s)	Status	Number of Cases
Chemistry	No courses	4
Chemistry 200	Taken or taking	0
Chemistry 250	Taken or taking	63
Chemistry 200 and Chemistry 250	Taken or taking	8

TABLE 6.4
CLOTHING AND TEXTILES 309
SELF-REPORTED RATING OF ATTITUDE STATEMENTS FOR TOTAL SAMPLE

Total Sample	000	n = 79
B. Ed. Students	000	n = 24
B. Sc. CLTX Students	(000)	n = 43
B. Sc. FAM. STU. Students	[000]	n = 7

Attitude Statements	Pre-Self-Reported Rating of Attitude Statements (1-Strongly Agree)	Mean	(5-Strongly Disagree)	Post-Self-Reported Rating of Attitude Statements (1-Strongly Agree)	Mean	(5-Strongly Disagree)	Significant Change (level of significance .05)
1. Textile science is very interesting to me.	1 1 (1) [1]	2.03 1.92 (2.05) 2.29	4 3 (3) [4]	1 1 (1) [2]	1.76 1.67 (1.50) [2.33]	3 3 (2) [3]	* * (*)
2. I don't like textile science.	2 3 (2) [2]	4.15 4.13 (4.21) [3.71]	5 5 (5) [5]	1 2 (1) [4]	4.35 4.17 (4.44) [4.33]	5 5 (5) [5]	(*)
3. I am always under a terrible strain in a textile science class.	2 3 (2) [2]	3.74 3.54 (3.90) [3.71]	5 5 (5) [5]	1 1 (4) [4]	4.31 4.00 (4.67) [4.33]	5 5 (5) [5]	(*)

Attitude Statements	Pre-Self-Reported Rating of Attitude Statements (1-Strongly Agree)	Mean	(5-Strongly Disagree)	Post-Self-Reported Rating of Attitude Statements (1-Strongly Agree)	Mean	(5-Strongly Disagree)	Significant Change (level of significance .05)
4. Textile science is fascinating and fun.	1 1 (1) [1]	2.48 2.29 (2.56) [2.57]	4 3 (4) [3]	1 1 (1) [1]	2.10 1.92 (1.94) [2.33]	4 3 (3) [3]	* * (*)
5. Textile science makes me feel secure, and at the same time it is stimulating.	1 2 (1) [2]	2.85 2.88 (2.77) [3.29]	5 5 (4) [4]	1 1 (1) [2]	2.26 1.92 (2.11) [2.33]	3 3 (3) [3]	* (*) [*]
6. Textile science makes me feel uncomfortable, restless, irritable and impatient.	1 3 (1) [2]	3.94 3.92 (4.07) [3.43]	5 5 (5) [5]	2 2 (4) [4]	4.18 4.00 (4.50) [4.00]	5 5 (5) [4]	 (*)
7. In general, I have a good feeling toward textile science.	1 1 (1) [1]	2.03 1.96 (2.02) [2.43]	4 4 (4) [4]	1 1 (1) [2]	1.82 1.67 (1.78) [2.00]	3 2 (2) [2]	 (*)
8. When I hear the word textile science I have a feeling of dislike.	2 2 (2) [3]	4.01 4.04 (4.00) [3.86]	5 5 (5) [5]	3 4 (4) [4]	4.27 4.33 (4.44) [4.33]	5 5 (5) [5]	 (*)
9. I approach textile science with a feeling of hesitation.	2 2 (2) [2]	3.61 3.50 (3.70) [3.14]	5 5 (5) [5]	3 3 (4) [3]	4.18 4.17 (4.44) [3.67]	5 5 (5) [4]	 (*)

Attitude Statements	Pre-Self-Reported Rating of Attitude Statements			Post-Self-Reported Rating of Attitude Statements			Significant Change (level of significance .05)
	(1-Strongly Agree)	Mean	(5-Strongly Disagree)	(1-Strongly Agree)	Mean	(5-Strongly Disagree)	
10. I really like textile science.	1	2.46	4	1	1.96	3	*
	1	2.38	3	1	1.75	2	*
	(1)	(2.52)	(4)	(1)	(1.72)	(3)	(*)
	[1]	[2.71]	[4]	[2]	[2.33]	[3]	
11. I have always enjoyed studying textile science.	1	2.76	4	1	2.54	5	*
	1	2.58	4	1	1.92	3	
	(2)	(2.88)	(4)	(1)	(2.59)	(5)	(*)
	[2]	[2.71]	[3]	[2]	[2.67]	[4]	
12. It makes me nervous to even think about doing a textile science experiment.	1	3.71	5	1	4.14	5	
	1	3.67	5	2	3.92	5	
	(2)	(3.79)	(5)	(4)	(4.56)	(5)	(*)
	[2]	[3.57]	[5]	[4]	[4.33]	[5]	
13. I feel at ease in textile science and like it very much.	1	2.63	4	1	2.14	4	
	1	2.71	4	1	1.83	3	*
	(1)	(2.60)	(4)	(1)	(1.89)	(3)	(*)
	[1]	[2.71]	[4]	[2]	[2.33]	[3]	
14. I feel a definite positive reaction to textile science; it's enjoyable.	1	2.46	4	1	1.92	3	*
	1	2.42	3	1	1.75	3	*
	(1)	(2.51)	(4)	(1)	(1.72)	(3)	(*)
	[1]	[2.29]	[3]	[2]	[2.00]	[2]	
15. Good-Bad	1	2.01	3	1	1.65	3	*
	1	2.08	3	1	1.58	2	
	(1)	(1.98)	(3)	(1)	(1.61)	(3)	(*)
	[1]	[2.14]	[3]	[1]	[1.33]	[2]	[*]

Attitude Scale	Pre-Self-Reported Rating of Attitude Scale Minimum	Pre-Self-Reported Rating of Attitude Scale Mean	Pre-Self-Reported Rating of Attitude Scale Maximum	Post-Self-Reported Rating of Attitude Scale Minimum	Post-Self-Reported Rating of Attitude Scale Mean	Post-Self-Reported Rating of Attitude Scale Maximum	Significant Change (level of significance .05)
16. Timely-Untimely	1	2.10	4	1	1.84	5	
	1	2.08	3	1	2.00	5	*
	(1)	(2.09)	(3)	(1)	(1.78)	(3)	(*)
	[1]	[2.14]	[4]	[1]	[2.00]	[3]	[*]
17. Painful-Pleasurable	1	3.57	5	2	4.02	5	
	1	3.38	5	2	4.00	5	
	(2)	(3.67)	(5)	(4)	(4.28)	(5)	(*)
	[1]	[3.43]	[4]	[3]	[4.00]	[5]	[*]
18. Meaningless-Meaningful	2	4.22	5	1	4.43	5	*
	2	4.13	5	2	4.50	5	
	(2)	(4.28)	(5)	(1)	(4.39)	(5)	
	[1]	[4.00]	[5]	[4]	[4.33]	[5]	[*]
19. Important-Unimportant	1	1.78	4	1	1.61	4	*
	1	1.92	4	1	1.50	2	
	(1)	(1.63)	(3)	(1)	(1.39)	(2)	
	[2]	[2.00]	[2]	[1]	[2.33]	[4]	[*]
20. Regressive-Progressive	1	3.67	5	2	4.02	5	
	2	3.58	5	2	4.00	5	
	(1)	(3.74)	(5)	(3)	(4.33)	(5)	
	[3]	[3.86]	[5]	[3]	[4.33]	[5]	[*]
21. High-Low	1	2.64	4	1	2.20	3	*
	1	2.61	3	1	1.92	3	
	(1)	(2.66)	(3)	(1)	(2.11)	(3)	
	[1]	[2.71]	[4]	[1]	[2.33]	[3]	[*]

Attitude Scale	Pre-Self-Reported Rating of Attitude Scale Minimum	Mean	Maximum	Post-Self-Reported Rating of Attitude Scale Minimum	Mean	Maximum	Significant Change (level of significance .05)
22. Positive-Negative	1	2.11	4	1	1.86	4	*
	1	2.08	3	1	1.67	2	
	(1)	(2.14)	(4)	(1)	(1.67)	(3)	(*)
	[1]	[2.14]	[3]	[1]	[2.00]	[3]	[*]

TABLE 6.5
CLOTHING AND TEXTILES 309
SELF-RATING OF COMPETENCE STATEMENTS

Total Sample	000	n = 79
B. Ed. Students	$\underline{000}$	n = 24
B. Sc. CLTX Students	$(\overline{000})$	n = 43
B. Sc. FAM. STU. Students	[000]	n = 7

	Competencies	Pre-Self-Rating of Competencies Highest (1-High)	Pre-Self-Rating of Competencies Mean	Pre-Self-Rating of Competencies Lowest (5-Low)	Post-Self-Rating of Competencies Highest (1-High)	Post-Self-Rating of Competencies Mean	Post-Self-Rating of Competencies Lowest (5-Low)	Significant Change (level of significance .05)
1.	The student will be able to function effectively with individualized materials being used in selected courses in the Home Economics Faculty.	1 $\underline{1}$ $(\overline{1})$ [2]	2.84 $\underline{2.84}$ $(\overline{2.79})$ [2.86]	5 $\underline{4}$ $(\overline{5})$ [4]	1 $\underline{1}$ $(\overline{1})$ [2]	1.98 $\underline{1.83}$ $(\overline{1.78})$ [2.67]	4 $\underline{3}$ $(\overline{2})$ [3]	* $\underline{*}$ $(\overline{*})$
2.	The student will develop an understanding of the several aspects of serviceability and of the various properties which contribute to the serviceability of textile products.	1 $\underline{1}$ $(\overline{1})$ [2]	3.09 $\underline{3.28}$ $(\overline{2.93})$ [3.14]	5 $\underline{5}$ $(\overline{5})$ [4]	1 $\underline{1}$ $(\overline{1})$ [1]	1.63 $\underline{1.50}$ $(\overline{1.86})$ [1.67]	3 $\underline{2}$ $(\overline{2})$ [2]	$\underline{*}$ $(\overline{*})$ [*]
3.	The student will be able to outline the main provisions of Canadian legislation and regulations pertaining to textile products, and describe how these affect the consumer's selection and use of such products.	1 $\underline{2}$ $(\overline{1})$ [1]	3.99 $\underline{4.16}$ $(\overline{3.79})$ [4.14]	5 $\underline{5}$ $(\overline{5})$ [5]	1 $\underline{1}$ $(\overline{1})$ [2]	2.25 $\underline{2.33}$ $(\overline{1.89})$ [2.67]	4 $\underline{4}$ $(\overline{3})$ [5]	$\underline{(*)}$ $(\overline{*})$ [*]

Competencies	Pre-Self-Rating of Competencies Highest (1-High)	Pre-Self-Rating of Competencies Mean	Pre-Self-Rating of Competencies Lowest (5-Low)	Post-Self-Rating of Competencies Highest (1-High)	Post-Self-Rating of Competencies Mean	Post-Self-Rating of Competencies Lowest (5-Low)	Significant Change (level of significance .05)
4. The student will have a knowledge of the origin and production of both natural and man-made fibers. The student will also have a basic understanding of the structure of various fiber types and of the relationships between structure and other fiber properties.	1	3.53	5	1	1.65	4	
	2	3.56	5	1	1.67	3	*
	($\overline{1}$)	($\overline{3.40}$)	($\overline{5}$)	($\overline{1}$)	($\overline{1.39}$)	($\overline{2}$)	($\overline{*}$)
	[1]	[3.71]	[5]	[1]	[1.33]	[2]	[*]
5. The student will have a knowledge of the serviceability characteristics of the various fiber types and will be able to relate these characteristics to potential end uses and appropriate care procedures.	1	3.40	5	1	1.71	3	
	2	3.56	5	1	1.58	3	*
	($\overline{1}$)	($\overline{3.19}$)	($\overline{5}$)	($\overline{1}$)	($\overline{1.72}$)	($\overline{3}$)	($\overline{*}$)
	[1]	[3.71]	[5]	[1]	[1.67]	[2]	[*]
6. The student will have a knowledge of various aspects of yarn structure and of the relationships between yarn structure and serviceability. The student will apply the knowledge to the selection of yarns (usually found in fabrics) most appropriate for selected end uses.	1	3.79	5	1	1.88	4	*
	2	3.68	5	1	1.75	3	*
	($\overline{1}$)	($\overline{3.69}$)	($\overline{5}$)	($\overline{1}$)	($\overline{1.67}$)	($\overline{3}$)	($\overline{*}$)
	[3]	[4.29]	[5]	[2]	[2.33]	[3]	[*]

	Competencies	Pre-Self-Rating of Competencies Highest (1-High)	Pre-Self-Rating of Competencies Mean	Pre-Self-Rating of Competencies Lowest (5-Low)	Post-Self-Rating of Competencies Highest (1-High)	Post-Self-Rating of Competencies Mean	Post-Self-Rating of Competencies Lowest (5-Low)	Significant Change (level of significance .05)
7.	The student will develop an understanding of the weaving process and a knowledge of the structure of common basic weave fabrics.	1 2 ($\overline{1}$) [3]	3.38 3.52 ($\overline{3.12}$) [4.00]	5 5 ($\overline{5}$) [5]	1 1 ($\overline{1}$) [2]	1.75 1.42 ($\overline{1.44}$) [3.00]	4 3 ($\overline{3}$) [4]	* * ($\overline{*}$) [*]
8.	The student will have a knowledge of the structure of special weave fabrics and of the relationships between fabric weave and product serviceability. The student will apply this knowledge to the selection of woven fabrics most appropriate for selected end uses.	1 3 ($\overline{1}$) [1]	3.58 3.64 ($\overline{3.38}$) [4.00]	5 5 ($\overline{5}$) [5]	1 1 ($\overline{1}$) [2]	1.94 1.67 ($\overline{1.83}$) [2.33]	3 3 ($\overline{3}$) [3]	* ($\overline{*}$) [*]
9.	The student will have a knowledge of knit fabric structures and of the relationships between fabric structure and serviceability. The student will apply this knowledge to the selection of knit fabrics most appropriate for selected end uses.	1 2 ($\overline{2}$) [1]	3.68 3.52 ($\overline{3.06}$) [4.14]	5 5 ($\overline{5}$) [5]	1 1 ($\overline{1}$) [1]	1.92 1.75 ($\overline{1.61}$) [2.00]	4 3 ($\overline{3}$) [3]	* ($\overline{*}$) [*]
10.	The student will have a knowledge of various formed fabric structures and of the relationships between fabric structure and serviceability. The student will apply this knowledge to the selection of formed fabrics most appropriate for selected end uses.	1 2 ($\overline{1}$) [2]	3.79 3.72 ($\overline{3.67}$) [4.43]	5 5 ($\overline{5}$) [5]	1 1 ($\overline{1}$) [3]	2.12 1.83 ($\overline{1.83}$) [3.00]	4 3 ($\overline{3}$) [3]	* ($\overline{*}$) [*]

	Competencies	Pre-Self-Rating of Competencies Highest (1-High)	Pre-Self-Rating of Competencies Mean	Pre-Self-Rating of Competencies Lowest (5-Low)	Post-Self-Rating of Competencies Highest (1-High)	Post-Self-Rating of Competencies Mean	Post-Self-Rating of Competencies Lowest (5-Low)	Significant Change (level of significance .05)
11.	The student will have a knowledge of the structure of braids, nets, laces and films and of the relationships between these fabric structures and serviceability.	1 2 (1) [3]	3.90 3.88 (3.74) [4.43]	5 5 (5) [5]	1 1 (1) [1]	1.92 1.83 (1.67) [2.67]	4 3 (3) [4]	 * (*) [*]
12.	The student will have a knowledge of various methods of applying color and design to fabrics, and of the relationship between these methods and serviceability. The student will apply this knowledge in the selection of appropriate dyeing or applied design methods for selected end uses.	1 2 (1) [3]	3.68 3.52 (3.57) [4.43]	5 5 (5) [5]	1 1 (1) [2]	2.00 1.83 (1.78) [3.00]	4 3 (3) [4]	 * (*) [*]
13.	The student will have a knowledge of the function of finishes applied to textile products and how these finishes contribute to serviceability. The student will apply this knowledge to the selection of fabrics with finishes appropriate to selected end uses.	1 2 (1) [3]	3.88 3.72 (3.83) [4.43]	5 5 (5) [5]	1 1 (1) [2]	2.21 2.25 (1.89) [2.33]	4 3 (3) [3]	 * (*) [*]

Competencies	Pre-Self-Rating of Competencies Highest (1-High)	Pre-Self-Rating of Competencies Mean	Pre-Self-Rating of Competencies Lowest (5-Low)	Post-Self-Rating of Competencies Highest (1-High)	Post-Self-Rating of Competencies Mean	Post-Self-Rating of Competencies Lowest (5-Low)	Significant Change (level of significance .05)
14. The student will synthesize and apply knowledge of the serviceability characteristics of all the components of a textile product (fiber, yarn, fabric structure, color and design, finish) to select appropriate textile alternatives and to prescribe appropriate care procedures for textile products.	1 2 (1) [3]	3.84 3.84 (3.62) [4.71]	5 5 (5) [5]	1 1 (1) [2]	2.04 2.08 (1.89) [2.33]	4 3 (3) [3]	 * (*) [*]

TABLE 6.6

CLOTHING AND TEXTILES 309

STUDENT RATINGS OF USE OF MODULES

n=53

Variable	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
	Ratings (Responses given in percentages)				
Use of modules was effective	45	49	4	2	0
Use of modules was efficient	34	53	4	9	0
Use of modules was appropriate	38	49	13	0	0

TABLE 6.7

CLOTHING AND TEXTILES 309

STUDENT RATINGS OF USE OF CML

n=53

Variable	Ratings (Responses given in percentages) Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
CML allowed efficient access to self-testing	36	47	4	13	0
CML allowed self-paced learning	43	43	10	4	0
CML allowed self-tracking	47	42	6	6	0
CML was appropriate	40	49	4	8	0
CML was enjoyable	43	43	8	2	4

TABLE 6.8

CLOTHING AND TEXTILES 309

STUDENT RATINGS OF MODULES VALUABLENESS

AT COMPLETION OF COURSE

n=53

Module Number	Ratings (Responses given in percentages) Yes	Somewhat	No
1	88	11	0
2	59	40	2
3	85	13	2
4	93	8	0
5	81	19	0
6	74	26	0
7	77	21	2
8	79	21	0
9	76	15	9
10	72	25	4
11	94	4	2
12	85	10	6
13	48	46	6

FAMILY STUDIES 440

Introduction

This section begins with a brief description of Family Studies 440, September 1980. Following this brief description is the detailed summative evaluation design that was based on the format suggested by the LSPE Design. The summative evaluation was developed from problem statements 1 and 2 as they applied to Family Studies 440. However, there are no responses to these problem statements in this chapter. They are presented in Chapter 7, Research Discussion - 1981.

Description

The course description for Family Studies 440, September 1980, was the same as the one given for September, 1979 in Chapter 5, Formative Evaluation and the Economics module continued to be used for review and remediation student needs. However, there was a different professor in charge of the course.

Therefore, in Family Studies 440, the innovative teaching/learning *systems* stated in problem statement 1 referred to the modularized system that was implemented for remediation and review of macroeconomics. The related learning *materials* stated in problem statement 2 referred to the module. Following is a detailed design of the summative evaluation that was implemented in Family Studies 440 in order to respond to the summative evaluation questions as they applied to Family Studies 440.

INNOVATIVE PROJECT
EVALUATION DESIGN 1980
FAMILY STUDIES 440

	VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
ANTECEDENTS	A.1 Student population entry characteristic - academic background.	A.1 Student population description questionnaire (Appendix 8) administered in class in September by evaluator.	A.1 Student population will have varying academic background.	A.1 Analysis of the data from Appendix 8 showed that students reported varying academic backgrounds ranging from a reported mean GPA of 4.00 to a reported mean GPA of 8.60. Table 6.9 gives the results.
	A.2 Student population entry characteristics - faculty enrolment.	A.2 Student population description questionnaire (Appendix 8) administered in class in September by evaluator.	A.2 Student population will be enrolled in a variety of faculties.	A.2 Analysis of the data from Appendix 8 showed that students are enrolled in the following faculties: B.Comm., B.Ed., B.Sc. H.Ec., Arts, and Grad Studies. Table 6.10 gives the results.
	A.3 Student population entry characteristics - year of program.	A.3 Student population description questionnaire (Appendix 8) administered in class in September by evaluator.	A.3 Student population will be enrolled in a variety of years of programs.	A.3 Analysis of the data from Appendix 8 showed that students are enrolled in first, second, third, fourth, and fifth years of programs. Table 6.11 gives the results.

VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
A.4 Student population entry characteristics - prerequisite courses.	A.4 Student population description questionnaire (Appendix 13) administered in class in September by evaluator.	A.4 Student population will have varied prerequisite courses either Econ. 201/202 or Econ. 306/307 or no courses.	A.4 Analysis of the information in the University Calendar showed that B.Comm. and B.Sc.H.Ec. (Family Studies and Clothing and Textiles) are required to complete Econ. 201/202 or Econ. 306/307 as part of their programs. Table 6.10 showed that 33 students were enrolled in Education, 1 student in Arts and 1 student in Grad Studies. Analyzing of the individual student forms revealed that of the B.Ed. students, 21 did not have the economics prerequisites and 12 did have Econ. 201 and 202. The Arts student had Econ. 201 and 202. The Grad student had Econ. 206.
A.5 Student population entry characteristics - attitude towards economics.	A.5 Pre-attitude scale (Appendix 9) administered in class in September by evaluator.	A.5 Student population will have a range of attitudes towards economics.	A.5 Analysis of the data from Appendix 9 showed that the mean rating for the total sample on the 14 attitude statements and the 8 paired attitude statements ranged from a high mean rating of 1 to a low mean rating of 5. Table 6.12 gives the results.

	VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
TRANSACTIONS	T.1 Student involvement with modular method as means for obtaining prerequisite.	T.1.1 Economics module evaluation (Appendix 11, Question 17), administered in class to those who completed or partly completed the module in December by evaluator.	T.1.1 80% of the students that complete or partly complete the economics module agree that it is an appropriate learning method (Appendix 66, Question 17).	T.1.1 Analysis of the data from Appendix 11, Question 17, showed that 85% of the students that completed or partly completed the economics module agreed that it was an appropriate learning method for economics.
		T.1.2 Professor questionnaire administered in December by evaluator.	T.1.2 The professor agrees that the economics module is an appropriate learning method.	T.1.2 Analysis of the data showed that the professor agreed that the economics module was an appropriate learning method.
OUTCOMES	0.1 Modules were printed to accommodate 1) the students that do not have the Econ. prerequisite courses included in their program of study; 2) any students that wanted a review of economics.	0.1 Modules were ordered and placed in bookstore for purchase by students.	0.1 50% of the students that do not have the prerequisite will purchase and complete or partly complete the module.	0.1 Analysis of the data from Appendix 11 (completion question) showed that 13 students completed or partly completed the economics module. These 13 students were enrolled in the following faculties: 4 in B.Sc.H.Ec. and 7 in B.Ed. The background information for 2 of the students that completed the economics module was missing. Of the 7 B.Ed. students that completed or partly completed the economics module,

VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
			none had the prerequisite Econ. course combination of Econ. 200 and 201 or Econ. 306 and Econ. 307. Therefore 33.3% of the B.Ed. students that did not have the prerequisite Econ. courses combination completed or partly completed the module. The professor explained that she had promoted the economics module at the beginning of the term for those who were deficient in Economics. She then left it to the students to be responsible for improving their deficient backgrounds.
0.2 Module is effective in that the stated objectives are met by students.	0.2 Module evaluation (Appendix 4, Question 3) administered in class to those who completed or partly completed the module in December by evaluator.	0.2 80% of the students that completed or partly completed the module agree that they have met the stated objectives (Appendix 11, Question 3).	0.2 Analysis of the data from Appendix 4, Question 3, showed that 77% of the students that completed or partly completed the economics module agreed that they had met the stated objectives of the module.

VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
0.3 Module is meeting the needs of students in that it increased competency in economics.	0.3 Module evaluation (Appendix 4, Question 16) administered in class to those who completed or partly completed module in December by evaluator.	0.3 80% of the students that comleted or partly completed the module agree that the module has increased their competency in economics.	0.3 Analysis of the data from Appendix 4, Question 16, showed that 76% of the students that completed or partly completed the economics module agreed that the module had increased their competency in economics.
0.4 Module is meeting needs of students in that students without prerequisite courses can learn from module.	0.4. Mean GPA for those students without prerequisite courses is compared to mean GPA for those students that have prerequisite courses.	0.4. There will be no significant difference between the mean GPA for the students without prerequisite courses and the mean GPA for the students with prerequisite courses.	0.4. Analysis of the data from Appendix 8, Question 5, showed that the mean GPA for students without prerequisite courses was 6.38 and the mean GPA for students with prerequisite courses was 6.71 and the mean GPA for students who completed or partly completed the economics module, and did not have any prerequisite courses was 6.00. There was no significant difference among the 3 groups at the .05 level.
0.5 Student population exit characteristics - attitude towards economics.	0.5 Post-attitude scale (Appendix 9) administered in class in December by evaluator.	0.5 Student population post-attitude scale will not indicate a significantly more negative attitude towards economics than the pre-	0.5 Analysis of the data from Appendix 9 showed that the total student population did not indicate a significantly more negative attitude toward economics on any of the attitude statements or pairs in

VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
		attitude scale.	the attitude scale, between post and pre ratings (Table A.5).
0.6 Course content will deal more exclusively with consumer issues rather than teaching and reviewing basic economics concepts.	0.6 Interview with professor.	0.6 Comparison of course content prior to module incorporation with that after module incorporation by analyzing course outlines.	0.6 The professor that was teaching Family Studies 440 this year did not teach the course last year nor work on the development of the economics module. She mentioned that her own background in economics was limited and therefore she had not spent a great deal of the course content teaching and reviewing basic economic concepts.

TABLE 6.9

FAMILY STUDIES 440
STUDENT ACADEMIC BACKGROUND
ACCORDING TO YEAR OF PROGRAM

Year of Program	Reported Mean GPA	Reported Minimum GPA	Reported Maximum GPA	Std. Dev.	Valid Cases
First	6.33	4.00	8.20	1.08	71
Second	6.60	4.80	8.60	.84	74
Third	6.87	5.10	8.40	.82	34
Fourth	7.40	6.80	8.00	.52	4
Fifth	7.50	7.00	8.00	.71	2
Sixth	7.55	7.10	8.00	.64	2

TABLE 6.10

FAMILY STUDIES 440
FACULTY ENROLLMENT
n=77

Faculty	Frequency
Bus. Admin. and Commerce	6
Education	23
Home Economics	45
Phys. Ed. and Recreation	1
Arts	1
Grad Studies	2

TABLE 6.11

FAMILY STUDIES 440
YEAR OF PROGRAM
n=77

Year of Program	Frequency
1	4
2	6
3	32
4	34
5	1

TABLE 6.12
FAMILY STUDIES 440
SELF-REPORTED RATING OF ATTITUDE STATEMENTS FOR TOTAL SAMPLE

	Pre-Self-Reported Rating of Attitude Statements			Post-Self-Reported Rating of Attitude Statements			Significant Change (level of significance .05)
Attitude Statements	(1-Strongly Agree)	Mean	(5-Strongly Disagree)	(1-Strongly Agree)	Mean	(5-Strongly Disagree)	
1. Economics is very interesting to me.	1	2.89	5	1	2.49	5	*
2. I don't like economics.	1	3.46	5	1	3.88	5	*
3. I am always under a terrible strain in an economics class.	1	3.45	5	1	3.71	5	*
4. Economics is fascinating and fun.	1	3.21	5	1	3.08	5	
5. Economics makes me feel secure, and at the same time it is stimulating.	1	3.27	5	1	2.95	5	*
6. Economics makes me feel uncomfortable, restless, irritable and impatient.	1	3.52	5	1	3.85	5	*

Attitude Statements	Pre-Self-Reported Rating of Attitude Statements			Post-Self-Reported Rating of Attitude Statements			Significant Change (level of significance .05)
	(1-Strongly Agree)	Mean	(5-Strongly Disagree)	(1-Strongly Agree)	Mean	(5-Strongly Disagree)	
7. In general, I have a good feeling toward economics.	1	2.78	5	1	2.46	5	*
8. When I hear the word economics I have a feeling of dislike.	1	3.35	5	2	3.66	5	*
9. I approach economics with a feeling of hesitation.	1	2.93	5	1	3.44	5	*
10. I really like economics.	1	3.16	5	1	2.86	5	*
11. I have always enjoyed studying economics.	1	3.26	5	2	3.28	5	
12. It makes me nervous to even think about doing an economics experiment.	1	3.22	5	1	3.54	5	
13. I feel at ease in economics and like it very much.	1	3.23	5	1	2.84	4	

Attitude Statements	Pre-Self-Reported Rating of Attitude Statements (1-Strongly Agree)	Pre-Self-Reported Rating of Attitude Statements Mean	Pre-Self-Reported Rating of Attitude Statements (5-Strongly Disagree)	Post-Self-Reported Rating of Attitude Statements (1-Strongly Agree)	Post-Self-Reported Rating of Attitude Statements Mean	Post-Self-Reported Rating of Attitude Statements (5-Strongly Disagree)	Significant Change (level of significance .05)
14. I feel a definite positive reaction to economics; it's enjoyable.	1	3.18	5	1	2.75	5	*
15. Good-Bad	1	2.60	5	1	2.36	5	*
16. Timely-Untimely	1	2.31	5	1	2.24	5	
17. Painful-Pleasurable	1	3.27	5	2	2.54	5	*
18. Meaningless-Meaningful	1	3.88	5	2	4.03	5	
19. Important-Unimportant	1	1.98	5	1	2.01	5	
20. Regressive-Progressive	1	3.50	5	1	3.72	5	*
21. High-Low	1	2.79	5	1	3.54	4	*
22. Positive-Negative	1	2.53	5	1	2.25	4	*

FAMILY STUDIES 444

Introduction

This section begins with a brief description of Family Studies 444, September 1980. Following this brief description is the detailed summative evaluation design that was based on the format suggested by the LSPE Design. The summative evaluation was developed from problem statements 1 and 2 as they applied to Family Studies 444. However, there are no responses to these problem statements in this chapter. They are presented in Chapter 7, Research Discussion - 1981.

Description

The course description for Family Studies 444, September 1980, was the same as the one given for September 1979 in Chapter 5, Formative Evaluation. However, the number of modules decreased from twenty to fifteen and the modules were revised to be self-contained. It should also be pointed out that the method of collecting data from the students had changed from focused group interviews in 1979, because of the limited response, to questionnaires in 1980.

Therefore in Family Studies 444, the innovative teaching/learning systems stated in problem statement 1 referred to the modularized system. The related learning materials stated in problem statement 2 referred to the modules. Following is a detailed design of the summative evaluation that was implemented in Family Studies 444 in order to respond to the summative evaluation questions as they applied to Family Studies 444.

INNOVATIVE PROJECT
EVALUATION DESIGN 1980
FAMILY STUDIES 444

	VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
ANTECEDENTS	A.1 Student population entry characteristics - academic background.	A.1 Student population description questionnaire (Appendix 10) administered in class in September by professor.	A.1 Student population will have varying academic backgrounds.	A.1.1 Analysis of the data from Appendix 10 showed that students reported varying academic backgrounds ranging from a reported low mean GPA of 6.68 for first year and a reported high mean GPA of 6.94 for third year. Table 6.13 gives the results.
				A.1.2 Analysis of the data from Appendix 36 showed that individual students reported varying academic backgrounds ranging from a reported low mean GPA of 5.10 to a reported high mean GPA of 8.33. (Table 6.14).
	A.2 Student population entry characteristics - psychology courses background.	A.2 Student population description questionnaire (Appendix 10) administered in class in September by professor.	A.2 Student population will have a variety of psychology courses in their backgrounds.	A.2 Analysis of the data from Appendix 10 showed that individual students reported having a variety of psychology courses in their backgrounds. Six students had taken or were taking psychology courses. Table 6.15 identifies the courses and the final grades.

VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
A.3 Student population entry characteristics - Family Studies 359 (communication course).	A.3 Student population description questionnaire (Appendix 10) administered in class in September by professor.	A.3 Student population will be varied as to having Family Studies 359 in their programs.	A.3 Analysis of the data from Appendix 10 showed that individual students varied as to having Family Studies 359 in their programs. Twelve, or 48% of the students, had taken or were taking Family Studies 359.
A.4 Student population entry characteristics - experience in program planning.	A.4 Student population description questionnaire (Appendix 10) administered in class in September by professor.	A.4 Student population will have had varying experience in program planning.	A.4 Analysis of the data from Appendix 10 showed 9 or 36% of the students had had experience in program planning. Family Studies 359 includes an introduction to program planning but this was not recognized by some of the students or 12 (48%) would have reported experience in program planning.
A.5 Student population entry characteristics - experience in counseling.	A.5 Student population description questionnaire (Appendix 10) administered in class in September by professor.	A.5 Student population will have had varying experience in counseling.	A.5 Analysis of the data from Appendix 10 showed that 6, or 24% of the students, had previous experience in counseling. The reported experiences in counseling were: crisis telephone counseling, student counseling, counseling courses and small group counseling.

	VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
TRANSACTIONS	T.1 Student involvement with modularized method of teaching/learning.	T.1 Student questionnaire (Appendix 14) was adminstered in class in December by resource person.	T.1.1 80% of the students rate the modularized method as effective, efficient, and appropriate.	T.1.1 Analysis of the data from Appendix 14 showed that 72% of the students reported the use of modules in this course was effective, 63% reported the use of modules in this course was efficient, and 72% reported the use of modules in this course was appropriate. Table 6.16 gives the results.
		T.1.2 Questionnaires were given in early December by the evaluator, to the professor (Appendix 13) and to the 1 resource person (Appendix 12).	T.1.2 The professor and 1 resource person rate the modularized method of teaching/learning as effective, efficient, and appropriate.	T.1.2 Analysis of the data from Appendices 12 and 13 showed that the professor and resource person agreed that the use of modules in this course was effective. The resource person agreed that the use of modules in this course as efficient and appropriate. The professor was uncertain of the use of modules in this course was efficient and appropriate.
	T.2 Student interactions with resource person and professor.	T.2 Student questionnaire (Appendix 14) was administered in class in December by resource person.	T.2 80% of the students, the professor and the resource person rate the student-instructional staff interaction as	T.2 Analysis of the data from Appendix 14 showed that 92% of the students agreed that the interaction with both the resource person and professor was satisfactory. Analysis of Appendices

	VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
			satisfactory.	12 and 13 indicated that the professor and resource person agreed their interaction with students was satisfactory.
OUTCOMES	0.1 Modules are effective in that the stated objectives are met by students.	0.1 Module evaluations (Appendix 11) were placed in the classroom. Students were requested to complete evaluations.	0.1 80% of the students will agree that they have met the stated objectives of the module.	0.1 Analysis of the data from Appendix 11 for each module, Question 5, showed that 80% or more of the students agreed that they had met the stated objectives for the following modules: 1N1, 1N2, 1N4, 1N5, 1N7, PP1, PP2, PP3, PP4, PP5, PP7, and PP8.
	0.2 Modules are effective in that they are rated as valuable in learning the content of the course, at the end of the course.	0.2.1 Student questionnaire (Appendix 14) was administered in class in December by resource person.	0.2.1 80% of the students will agree each module is valuable, either yes or somewhat, in learning the content of the course, at the end of the course.	0.2.1 Analysis of the data from Appendix 11 for each module, showed that 86-100% of the students rated the modules as valuable in learning the content of the course when queried at the end of the course. Table 6.17 gives the results.
		0.2.2 Resource person questionnaire (Appendix 12) was delivered in December by evaluator.	0.2.2 The resource person will agree that each module is valuable, yes or somewhat.	0.2.2 Analysis of the data from Appendix 12 showed that the resource person rated each module as valuable, yes or somewhat. In addition, the resource person supplied some suggestions for revisions. These suggestions focused on the length of the

VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
			modules. The resource person felt all of the modules contained too much information.
	0.2.3 Professor questionnaire (Appendix 13) was delivered in December by evaluator.	0.2.3 The professor will agree that each module is valuable, yes or somewhat.	0.2.3 Analysis of the data from Appendix 13 showed that the professor agreed that each module was valuable, yes or somewhat. In addition, there were some suggestions made for revisions.
0.3 Modules are meeting the needs of students in that they increase the students competencies.	0.3.1 Module evaluations (Appendix 11) were placed in the classroom. Students were requested to complete evaluations.	0.3.1 80% of the students will agreed that each of the modules has increased their competency.	0.2 Analysis of the data from Appendix 11 for each module, Question 22, showed that 80% of the students agreed that the following modules had increased their competencies: 1N1, 1N2, 1N3, 1N4, 1N5, 1N6, 1N7,PP4, PP5, PP7, and PP8.
	0.3.2 Student questionnaire (Appendix 14) was administered in December by evaluator.	0.3.2 80% of the students will agree that the use of modules in this course allowed them to increase their competencies according to their own needs.	0.3.2 Analysis of the data from Appendix 14, Question 1, showed that 80% of the students did agree that the use of modules in this course allowed them to increase their competencies according to their own needs.

TABLE 6.13
FAMILY STUDIES 444
STUDENT REPORTED ACADEMIC BACKGROUND ACCORDING TO YEAR OF PROGRAM

Year of Program	Reported Mean GPA	Reported Minimum GPA	Reported Maximum GPA	Std. Dev.	Valid Cases
First	6.68	5.00	8.10	1.13	17
Second	6.88	4.60	8.50	1.11	20
Third	6.94	4.90	8.50	1.08	19

TABLE 6.14
FAMILY STUDIES 444
INDIVIDUAL REPORTED ACADEMIC BACKGROUND
n=20

Reported GPA	Frequency
5.10	1
5.43	1
5.50	1
5.87	1
6.27	1
6.45	1
6.57	1
6.87	1
7.15	1
7.20	1
7.27	1
7.40	1
7.65	1
7.73	1
7.86	1
8.00	4
8.33	1
Mean 7.03	

TABLE 6.15

FAMILY STUDIES 444
PSYCHOLOGY BACKGROUND
n=6

Name of Course	Frequency	Final Grade
Ed. Psych 201	1	6
Ed. Psych 251	1	8
Ed. Psych 253	1	7
Ed. Psych 269	2	6, 8
Ed. Psych 271	2	6, 7, 8
Psych 260	1	6
Psych 261	1	6
Psych 269	1	6

TABLE 6.16

FAMILY STUDIES 444
STUDENT RATINGS OF USE OF MODULES
AT END OF COURSE
n=25

Variable	(Frequency of Report in percentages) Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Use of modules was effective	20	52	12	8	8
Use of modules was efficient	17	46	21	8	8
Use of modules was appropriate	12	60	16	4	8

TABLE 6.17

FAMILY STUDIES 444
STUDENT RATINGS OF USE OF MODULES
WHEN QUERIED AT END OF COURSE
n=25

Module	Yes	Somewhat	Not at All
	(Value Rating Reported in percentages)		
PP1	59	36	5
PP2	64	32	5
PP3	87	9	4
PP4	74	26	0
PP5	73	27	0
PP6	61	35	4
PP7	52	29	19
PP8	57	39	4
1N1	32	55	14
1N2	59	32	9
1N3	50	46	5
1N4	87	13	0
1N5	78	22	0
1N6	87	13	0
1N7	73	23	5

FOODS AND NUTRITION 325/326

Introduction

This section begins with a brief description of Foods and Nutrition 325/326. Following this brief description is the detailed summative evaluation design that was based on the format suggested by the LSPE Design. The summative evaluation was developed from problem statements 1 and 2 as they applied to Foods and Nutrition 325/326. However, there are no responses to these problem statements in this chapter. They are presented in Chapter 7, Research Discussion - 1981.

Description

The course description for Foods and Nutrition 325/326, September 1980, was the same as given for September, 1979 in Chapter 5, Formative Evaluation. The three modules continued to be used for students' need for review and remediation and the computer assisted instruction (CAI) component continued to be one of the activities in Module 4. Another section of the course was added in the evening and a different professor was in charge of this section.

Therefore, in Foods and Nutrition 325/326 the innovative teaching/learning systems stated in problem statement 1 referred to the modularized and CAI systems. The related learning materials stated in problem statement 2 referred to the modules. Following is a detailed design of the summative evaluation that was implemented in Foods and

Nutrition 325/326 in order to respond to the summative evaluation questions as they applied to Foods and Nutrition 325/326.

INNOVATIVE PROJECT
EVALUATION DESIGN 1980
FOODS AND NUTRITION 325/326

	VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
ANTECEDENTS	A.1 Student population entry characteristics - academic background.	A.1 Student population description questionnaire (Appendix 16) administered in class in September by professor and evaluator.	A.1 Student population will have varying academic background.	A.1.1 Analysis of the data from Appendix 16 showed that students reported varying academic backgrounds. Reported GPA scores ranged from 2 to 9.
				A.1.2 Analysis of the data from Appendix 16 showed that the students, when grouped according to faculties, reported varying academic backgrounds. The modal grade category for the Education and B.Sc.H.Ec. students was 6 for the Phys. Ed. and Rec. students 6.5, 7 for the special students and the Nursing students, and 7.5 for the Science students.
	A.2 Student population entry characteristics - faculty enrolment.	A.2 Student population description questionnaire (Appendix 16) administered in class in September by professor and evaluator.	A.2 Student population will be enrolled in a variety of faculties.	A.2 Analysis of the data from Appendix 16 showed that the students were enrolled in 5 different faculties and 1 student was a special student. Table 6.18 gives the results.

VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
A.3 Student population entry characteristics - prerequisite courses.	A.3 Student population description questionnaire (Appendix 16) administered in class in September by professor and evaluator.	A.3 Student population will have varied prerequisite courses, either Chem 250 or Physl. 260, 261 or 262 or equivalent.	A.3 Analysis of the data from Appendix 16 showed that 36 students had taken or were taking Chem 200, 57 students had taken or were taking Chem 250, 26 had taken or were taking Physl. 260, 61 students had taken or were taking Physl. 261. Table 6.19 gives the results. Tables 6.20 to 6.25 give the statistics on the prerequisite courses according to faculties.
A.4 Student population entry characteristics - background in chemistry, cell physiology, and digestion and absorption.	A.4 Pre-tests covering subject material in chemistry, cell physiology, and digestion and absorption to be developed and administered by professor in September in class.	A.4 Students will have a varying knowledge base in chemistry, cell physiology, and digestion and absorption.	A.4 An analysis of the scores on the pre-tests for chemistry, cell physiology, and digestion and absorption showed the following. The pre-test scores for chemistry, cell physiology and digestion and absorption modules ranged from 17 - 100%, 0 - 100% and 10 - 100%, respectively.
T.1 Student ratings of the use of modules in this course, i.e. student involvement with modularized method of teaching/learning.	T.1.1 Student questionnaire (Appendix 22) was administered in December in class by evaluator.	T.1.1 80% of the students will agree that the use of modules in this course was effective, efficient and appropriate.	T.1.1 An analysis of the data from Appendix 22, Questions 2, 3 and 4 yielded the following results: 66% of the students agreed that the use of modules in this course was effective, 60% agreed that the use of modules was efficient and 61% agreed that the use of modules was appropriate.

	VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
T R A N S A C T I O N S				Only 20% of the students disagreed that the use of modules was efficient and only 17% disagreed that the use of modules was appropriate. The remaining 63% of students were uncertain about the use of modules being effective, efficient and appropriate. Furthermore, the results from Appendices 28, 29 and 31, Question 3, showed that 78% of the students met the objectives for Module 2 and over 80% of the students met the objectives for Modules 3 and 4. In addition, the results from Question 18 showed that over 80% of the students reported that modules 2, 3, and 4 were helpful in increasing competencies. Because of the inconclusive results, further questions should be asked regarding the modules' effectiveness, efficiency and appropriateness in the next evaluation.

	VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
		T.1.2 Resource person questionnaire (Appendix 19) was not administered in December by evaluator because there were no resource persons.		
		T.1.3 Professor questionnaire (Appendix 20) was delivered in December by evaluator.	T.1.3 The professor will agree that the use of modules in this course was effective, efficient and appropriate.	T.1.3 An analysis of the data from Appendix 20, Questions 2, 3, and 4 showed that both professors agreed that the use of modules in this course was effective, efficient and appropriate.
OUTCOMES	0.1 Modules are effective in that the stated objectives are met by the students.	0.1 Module evaluations (Appendix 11) were included in the modules. Students were requested to remove the evaluations and hand the evaluations in to the professor.	0.1.1 80% of the students will agree that they have met the stated objective of the module.	0.1.1 An analysis of the data from Appendix 11 for each module, Question 3, showed that 78% of the students agreed that they had met the stated objectives of Module 2, that 84% agreed that they had met the stated objectives of Module 3 and that 87% agreed that they had met the stated objectives of Module 4. The results are presented in Tables 6.26 and 6.28.

VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
	0.1.2 Student questionnaire (Appendix 11) was administered in December in class by evaluator.	0.1.2 80% of the students will agree that the modules provided a background or foundation for the subjects introduced later in the course.	0.1.2 An analysis of the data from Appendix 11 for each module, Question 7 showed that 67% agreed the Module 2 provided a background or foundation for the subjects introduced later in the course, 74% agreed that Module 3 had and 81% agreed that Module 4 had. Table 0.1.5 gives the results. Only 21% and 15% of the students disagreed that Module 2 and 3 respectively, had provided a background or foundation for the subjects introduced later in the course. The remaining students were uncertain.
	0.2.2 Student questionnaire (Appendix 22) was administered in December in class by evaluator.	0.2.2 80% of the students will agree that the use of modules in this course allowed them to increase their competencies.	0.2.2 An analysis of the data from Appendix 22, Question 1, showed that 60% of the students agreed that the use of modules in this course allowed them to increase their competencies according to their own needs, 22% were uncertain and 21% disagreed.
0.3 Modules are meeting the needs of students in that they are made available to those students who	0.3 Post-tests covering subject material in chemistry, cell physiology, and digestion and absorp-	0.3 The students wrote the pre-tests once. Those that did not achieve 80% on the pre-tests had the	0.3 An analysis of the pre-test scores and post-test scores is given in Table 0.3. Out of the 191 students that scored lower than 80% on the pre-test for Mo-

VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
desire information on chemistry, cell physiology, and digestion and absorption.	tion were developed and administered by the professor in class approximately three weeks after the pre-test.	opportunity to write the post-tests once. The highest grade of the two post-tests would be recorded.	dule 2, 53 or 27% scored 80% or higher on the post-test. 78 or 51% of the 153 students that scored lower than 80% on the pre-test for Module 3, scored 80% or higher on the post-test and 52 or 26% of 197 students that scored lower than 80% on the pre-test for Module 4, scored 80% or higher on the post-test. (Table 6.34).

TABLE 6.18

FOODS AND NUTRITION 325/326

FACULTY ENROLLMENT
n=211

Faculty	Frequency
Education	18
B.Sc. H.Ec.	24
Nursing	152
Phys. Ed. & Rec.	12
Science	4
Special Students	1

TABLE 6.19

FOODS AND NUTRITION 325/326
PREREQUISITE COURSES
n=211

Courses	Frequency
Chem 200	36
Chem 250	57
Physl 260	26
Physl 261	61
Physl 262	33
Others	0

TABLE 6.20

FOODS AND NUTRITION 325/326
FREQUENCIES OF PREREQUISITE COURSES FOR FOODS & NUTRITION 325/326 TAKEN BY FACULTY OF EDUCATION STUDENTS
n=18

	(Responses given in percentages)		
Courses	Taken or Taking	Not Taken or Not Taking	Not Reported
Chem 200	28	17	56
Chem 250	6	89	6
Physl 260	0	77	22
Physl 261	0	77	22
Physl 262	6	77	17

TABLE 6.21

FOODS AND NUTRITION 325/326
FREQUENCIES OF PREREQUISITE COURSES FOR FOODS & NUTRITION 325/326 TAKEN BY FACULTY OF HOME ECONOMICS STUDENTS
n=24

	(Responses given in percentages)		
Courses	Taken or Taking	Not Taken or Not Taking	Not Reported
Chem 200	8	25	67
Chem 250	96	0	4
Physl 260	8	75	17
Physl 261	4	75	21
Physl 262	0	71	29

TABLE 6.22

FOODS AND NUTRITION 325/326
FREQUENCIES OF PREREQUISITE COURSES FOR FOODS & NUTRITION 325/326 TAKEN BY FACULTY OF NURSING STUDENTS
n=152

	(Responses given in percentages)		
Courses	Taken or Taking	Not Taken or Not Taking	Not Reported
Chem 200	20	6	74
Chem 250	7	74	19
Physl 260	6	51	43
Physl 261	38	39	23
Physl 262	46	19	35

TABLE 6.23

FOODS AND NUTRITION 325/326
FREQUENCIES OF PREREQUISITE COURSES FOR FOODS & NUTRITION 325/326 TAKEN BY FACULTY OF PHYSICAL EDUCATION STUDENTS
n=12

Courses	(Responses given in percentages) Taken or Taking	Not Taken or Not Taking	Not Reported
Chem 200	42	25	33
Chem 250	67	8	25
Physl 260	92	0	8
Physl 261	0	42	58
Physl 262	0	50	50

TABLE 6.24

FOODS AND NUTRITION 325/326
FREQUENCIES OF PREREQUISITE COURSES FOR FOODS & NUTRITION 325/326 TAKEN BY FACULTY OF SCIENCE STUDENTS
n=4

Courses	(Responses given in percentages) Taken or Taking	Not Taken or Not Taking	Not Reported
Chem 200	0	0	100
Chem 250	100	0	0
Physl 260	0	75	25
Physl 261	0	75	25
Physl 262	0	75	25

TABLE 6.25

FOODS AND NUTRITION 325/326
FREQUENCIES OF PREREQUISITE COURSES FOR FOODS & NUTRITION 325/326 TAKEN BY SPECIAL STUDENTS
n=1

	(Responses given in percentages)		
Courses	Taken or Taking	Not Taken or Not Taking	Not Reported
Chem 200	0	0	100
Chem 250	0	0	100
Physl 260	0	0	100
Physl 261	0	0	100
Physl 262	0	0	100

TABLE 6.26

FOODS AND NUTRITION 325/326

MODULE 2: CHEMISTRY CONCEPTS

REPORTED OBJECTIVE ATTAINMENT

n=59

Faculty	(Responses given in percentages) Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Education n=(6) 10%	17	68	17	0	0
B.Sc. H.Ec. n=(7) 12%	43	57	0	0	0
Nursing n=(38) 64%	13	58	26	3	0
Phys Ed & Rec n=(1) 2%	0	100	0	0	0
B.Sc. Science n=(1) 2%	0	100	0	0	0
Grad Studies n=(0) 0%	0	0	0	0	0
Special Students n=(0) 0%	0	0	0	0	0
Total Combined Response n=(59) 100%	15	63	20	2	0

TABLE 6.27

FOODS AND NUTRITION 325/326

MODULE 3: CELL PHYSIOLOGY

REPORTED OBJECTIVE ATTAINMENT

n=68

Faculty	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
	(Responses given in percentages)				
Education n=(14) 21%	29	43	29	0	0
B.Sc. H.Ec. n=(20) 29%	25	55	10	10	0
Nursing n=(17) 25%	24	53	24	0	0
Phys Ed & Rec n=(4) 6%	25	50	25	0	0
B.Sc. Science n=(0) 0%	0	0	0	0	0
Grad Studies n=(1) 1%	100	0	0	0	0
Special Students n= (0) 0%	0	0	0	0	0
Total Combined Response n=(68) 100%	23	57	17	3	0

TABLE 6.28

FOODS AND NUTRITION 325/326

MODULE 4: DIGESTION AND ABSORPTION

REPORTED OBJECTIVE ATTAINMENT

n=63

Faculty	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
	(Responses given in percentages)				
Education n=(6) 10%	83	0	17	0	0
B.Sc. H.Ec. n=(8) 13%	25	75	0	0	0
Nursing n=(41) 65%	22	66	12	0	0
Phys Ed & Rec n=(0) 0%	0	0	0	0	0
B.Sc. Science n=(2) 3%	0	100	0	0	0
Grad Studies n=(0) 0%	0	0	0	0	0
Special Students n=(0) 0%	0	0	0	0	0
Total Combined Response n=(63) 100%	19	68	11	2	0

TABLE 6.29

FOODS AND NUTRITION 325/326 REPORT AT COURSE COMPLETION OF BACKGROUND OR FOUNDATION PROVIDED BY MODULES FOR REMAINDER OF COURSE

n=193

Module	(Responses given in percentages) Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Not Applicable
Module 2: Chemistry Concepts	9	58	10	15	6	1
Module 3: Cell Physiology	6	67	11	12	3	1
Module 4: Digestion and Absorption	18	63	10	6	3	0

TABLE 6.30

FOODS AND NUTRITION 325/326 PLATO EVALUATION AT COURSE COMPLETION

n=136

Characteristic	(Responses given in percentages) Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Not Applicable
PLATO appropriate for this course	34	52	7	4	1	2
PLATO was valuable	40	40	12	5	1	2

TABLE 6.31

FOODS AND NUTRITION 325/326

MODULE 2: CHEMISTRY CONCEPTS

REPORT OF MODULE HELPFULNESS

IN INCREASING COMPETENCIES

n=61

Faculty	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
	(Responses given in percentages)				
Education n=(6) 10%	33	67	0	0	0
B.Sc. H.Ec. n=(7) 12%	57	29	0	14	0
Nursing n=(39) 64%	10	72	8	5	5
Phys Ed & Rec n=(2) 3%	50	0	50	0	0
B.Sc. Science n=(1) 1%	0	100	0	0	0
Grad Studies n=(0) 0%	0	0	0	0	0
Special Students n=(0) 0%	0	0	0	0	0
Total Combined Response n=(61) 100%	18	64	10	5	3

TABLE 6.32

FOODS AND NUTRITION 325/326

MODULE 3: CELL PHYSIOLOGY

REPORT OF MODULE HELPFULNESS

IN INCREASING COMPETENCIES

n=56

	(Responses given in percentages)				
Faculty	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Education n=(4) 7%	25	75	0	0	0
B.Sc. H.Ec. n=(7) 13%	43	57	0	0	0
Nursing n=(39) 70%	13	67	10	8	3
Phys Ed & Rec n=(1) 2%	0	0	100	0	0
B.Sc. Science n=(1) 2%	0	100	0	0	0
Grad Studies n=(0) 0%	0	0	0	0	0
Special Students n=(0) 0%	0	0	0	0	0
Total Combined Response n=(56) 100%	20	64	9	5	2

TABLE 6.33

FOODS AND NUTRITION 325/326

MODULE 4: DIGESTION AND ABSORPTION

REPORT OF MODULE HELPFULNESS

IN INCREASING COMPETENCIES

n=63

Faculty	(Responses given in percentages) Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Education n=(6) 10%	17	83	0	0	0
B.Sc. H.Ec. n=(8) 13%	63	37	0	0	0
Nursing n=(41) 65%	24	61	10	5	0
Phys Ed & Rec n=(0) 0%	0	0	0	0	0
B.Sc. Science n=(2) 3%	0	100	0	0	0
Grad Studies n=(0) 0%	0	0	0	0	0
Special Students n=(0) 0%	0	0	0	0	0
Total Combined Response n=(63) 100%	29	62	6	3	0

TABLE 6.34

FOODS AND NUTRITION 325/326

STUDENT PRE AND POST-TEST SCORES

TOTAL SAMPLE
n=222

Module	Pre-Test score 80% or higher	Did not write Post-Test	Post-Test score same as Pre-Test	Post-Test score 80% or higher	Post-Test score lower than 80%
Module 2: Chemistry Concepts	n=27 12%	n=3 11%	n=2 7%	n=6 22%	n=16 59%
Module 3: Cell Physiology	n=64 29%	n=11 17%	n=9 14%	n=26 41%	n=18 28%
Module 4: Digestion and Absorption	n=21 9%	n=3 14%	n=3 14%	n=6 29%	n=9 43%

Module	Pre-Test score lower than 80%	Did not write Post-Test	Post-Test score 80% or higher	Post-Test score lower than 80%
Module 2: Chemistry Concepts	n=191 89%	n=2 1%	n=53 27%	n=136 71%
Module 3: Cell Physiology	n=153 69%	n=2 1%	n=78 51%	n=73 48%
Module 4: Digestion and Absorption	n=197 89%	n=2 1%	n=52 26%	n=143 73%

TABLE 6.34

FOODS AND NUTRITION 325/326

STUDENT PRE AND POST-TEST SCORES

TOTAL SAMPLE
n=222

Module	Did not write Pre-Test	Post-Test score 80% or higher	Post-Test score lower than 80%
Module 2: Chemistry Concepts	n=4 2%	n=0 0%	n=4 100%
Module 3: Cell Physiology	n=5 2%	n=2 40%	n=3 60%
Module 4: Digestion and Absorption	n=4 2%	n=2 50%	n=2 50%

PROJECT

Introduction

The evaluation of the project, overall, was left until December, 1980. Following this brief introduction is the summative evaluation design that was based on the format suggested by LSPE Design. The evaluation design was developed from problem statments 3 and 4. However, there are no responses to these problem statements in this chapter. They are presented in Chapter 7, Research Discussion - 1981.

INNOVATIVE PROJECT
EVALUATION DESIGN 1980
PROJECT

	VARIABLES	DATA COLLECTION PROCEDURES	STANDARDS	OBSERVATIONS
OUTCOMES	0.1 Increased awareness of innovative teaching/learning systems and related material by Faculty.	Analysis of attendance at project activities. Interview with project leaders.	80% of the staff are aware of the innovative teaching/learning systems that have been developed through the project.	An analysis of the data showed that at least 80% of the staff have attended and/or participated in at least one project activity.
	0.2 Increased utilization of innovative teaching/learning systems by Faculty.	Analysis of project reports. Analysis of budget statements. Interview with project leaders.	As many requests as can be accommodated are submitted.	An analysis of the data showed that as many requests as could be accommodated by the project were submitted by Faculty.
	0.3 Innovative teaching/learning systems and related materials shared with sister institutions.	Analysis of project meeting minutes. Interviews with project leaders.	Efforts have been made.	An analysis of the data showed that various copies of the modules have been sent to 15 Canadian and 4 American University Home Economics or related units.

CHAPTER 7

RESEARCH DISCUSSION - 1981

INTRODUCTION

There was a formative and summative evaluation conducted of the Development of Demonstration Learning Systems for Home Economics Programs in 1979 and 1980 respectively. Similar evaluation designs for the two evaluations were implemented. The results of the formative evaluation were reported in Chapter 5. The second or summative evaluation was discussed in Chapter 6. Summary statements of the combined results of the two evaluations under separate heading for each selected course are presented in this chapter. The format used is based on the LSPE Design, as for the first and second evaluations.

A conclusion section for each of the selected courses follows the presentation of the summary statements. Each conclusion section has two parts. The first part reviews aspects of the selected courses that are relevant for understanding and interpreting the conclusions that are presented in the second part. The conclusions are discussed in regard to the questions that were identified for the summative evaluation for each of the selected courses. Following the conclusion section is the judgements and recommendations section.

Also included is a discussion of the evaluation of the overall project under the heading of "project" following the discussion of Foods and Nutrition 325/326. The last section of this chapter discusses unintended side-effects. Some noteworthy and obvious side-effects of the Learning Systems Project have been pointed out and discussed.

CLOTHING AND TEXTILES 309

This section presents a summary account of the two evaluation designs implemented in Clothing and Textiles 309 as part of the evaluation of the Innovative Project. The first evaluation was implemented from September 1979 to December 1979 and the second evaluation was implemented from September 1980 to December 1980. A detailed account of the design and results of the September 1979 to December 1979 evaluation were reported in the Chapter 5 and a detailed account of the design and results of the September 1980 to December 1980 evaluation were reported in Chapter 6.

Following the summary account of the two evaluation designs is a conclusion section. This discussion is made of two parts. The first part reviews aspects of this course that are relevant for understanding and appreciating the conclusions. Then conclusions are discussed. They are related to the questions that were identified for the summative evaluation of Clothing and Textiles 309. Those two questions were:

1. Are the innovative teaching/learning systems further meeting the learning needs of students with varying academic backgrounds and varying career aspirations?
2. Are the related teaching materials further meeting the learning needs of students with varying academic backgrounds and varying career aspirations?

The next part is the judgements and recommendations section.

Summary Statements

INNOVATIVE PROJECT
CLOTHING AND TEXTILES 309

	VARIABLES	STANDARDS	SUMMATIVE OBSERVATIONS BASED ON OBSERVATIONS FROM EVALUATION 1979 and 1980
ANTECEDENTS	A.1 Student population entry characteristics - academic background.	A.1 Student population will have varying academic background.	A.1 The student population had varying backgrounds. The students reported GPA's ranging from 2.00 to 8.80.
	A.2 Student population entry characteristics - faculty enrolment.	A.2 Student population will be enrolled in a variety of faculties.	A.2 The student population was enrolled in a variety of faculties. In 1979, 71% were in H.Ec., 28% in Education, and 1% in Bus.Ad. & Com. In 1980, 63% were in H.Ec., 33% in Education and 5% in Grad Studies.
	A.3 Student population entry characteristics - major area	A.3 Student population will be enrolled in a variety of major areas.	A.3 The largest percentage of the student population was enrolled in CLTX H.Ec. The second largest percentage in Ed. H.Ec. and the third largest percentage in FAM STU H.Ec. There has been 1% enrolled in Bus. Admin. and Commerce and 1% enrolled in Foods & Nutrition H.Ec.
	A.4 Student population entry characteristics - year of program.	A.4 Student population will be enrolled in a variety of years of program.	A.4 The majority of the student population were enrolled in the second and third years of their programs.
	A.5 Student population entry character-	A.5 Student population will be varied	A.5 The student population reported varied backgrounds in Chemistry. Most of the students reported having com-

VARIABLES	STANDARDS	SUMMATIVE OBSERVATIONS BASED ON OBSERVATIONS FROM EVALUATION 1979 and 1980
istics - Chemistry 200 and/or Chemistry 250 in background.	in chemistry background in relation to Chemistry 200 and Chemistry 250.	pleted or completing Chem 250. For a detailed analysis of 1979 see Chapter 5 and for 1980 see Chapter 6.
A.6 Student population entry characteristic - attitude towards textile science.	A.6 Student population will have a range of attitudes towards textile science.	A.6 The student population reported a range of attitudes towards textile science. For a detailed analysis of the 1979 data see Chapter 5 and for 1980 see Chapter 6.
A.7 Student population entry characteristic - competency in textile science.	A.7 Student population will have a range of ratings (from 1 high to 5 low) on the 14 competencies for the course.	A.7 The student population reported a range of low to high self-ratings on the fourteen competencies for the course. For a detailed analysis of the 1979 data see Chapter 5 and for 1980 data see Chapter 6.
T.1 Student involvement with modularized method of teaching/learning.	T.1.1 80% of the students will agree that the use of modules in this course was effective, efficient and appropriate.	T.1.1 In 1979, 80% of the students agreed that the use of modules in this course was effective, 64% agreed it was efficient and 68% agreed it was appropriate. Furthermore, in 1979 there were problems with the CML system. In 1980, 94% of the students agreed that the use of modules in this course was effective, 87% agreed it was efficient and appropriate. Furthermore, in 1980 there were problems with the PLATO system.

	VARIABLES	STANDARDS	SUMMATIVE OBSERVATIONS BASED ON OBSERVATIONS FROM EVALUATION 1979 and 1980
TRANSACTIONS		T.1.2 The 2 resource persons will agree that the use of modules in this course was effective, efficient and appropriate.	T.1.2 The resource persons rated the use of modules in this course as effective and efficient. In 1979 and 1980, all of the resource persons, with the exception of 1 in 1980, rated the use of modules in this course as appropriate. See the discussion following these summary statements.
		T.1.3 The professor will agree that the use of modules in this course was effective, efficient and appropriate.	T.1.3 The professors in 1979 and 1980 rated the use of modules in this course as effective and appropriate. The professor in 1979 was uncertain about the efficiency whereas the professor in 1980 strongly agreed about the efficiency. In 1979, the professor spent considerable amount of time solving CML problems.
	T.2 Student involvement with CML system in this course.	T.2.1 80% of the students will agree that the use of CML in this course was efficient, effective (it allowed self-pacing and self-tracking), and appropriate.	T.2.1 In 1979 the students agreed that the use of CML in this course was as follows: 18.5% agreed it allowed efficient access to self-testing, 45% agreed it allowed self-pacing, 70% agreed it allowed self-tracking, 46% agreed it was appropriate, and 31% agreed it was an enjoyable experience. For a detailed analysis of the 1979 data see Chapter 5. In 1980, the students agreed the use of CML in this course was as follows: 83% agreed it allowed efficient access to self-testing, 86% agreed it allowed self-pacing, 89% agreed it allowed self-tracking and it was appropriate, and 86% agreed it was an enjoyable experience. For a detailed analysis of the 1980 data see Chapter 6.

VARIABLES	STANDARDS	SUMMATIVE OBSERVATIONS BASED ON OBSERVATIONS FROM EVALUATION 1979 and 1980
	T.2.2 The 2 resource persons will agree that the use of CML in this course was effective, efficient and appropriate.	T.2.2 In 1979 both resource persons and in 1980 one of the two resource persons agreed the use of CML in this course was effective, efficient and appropriate. The other person, in 1980, was uncertain about the effectiveness and appropriateness, and strongly disagreed about the efficiency of the use of CML in this course. See the discussion following these summary statements.
	T.2.3 The professor will agree that the use of CML in this course was effective, efficient and appropriate.	T.2.3 In 1979 the professor agreed that the use of CML in this course was not effective, efficient or appropriate. In 1980, the professor strongly agreed that the use of CML in this course was effective, efficient and appropriate.
T.3 Student interactions with other students.	T.3 80% of the students will agree that their interactions with other students are satisfactory.	T.3 In 1979, 83% and in 1980 75% of the students agreed that their interactions with other students were satisfactory. For a detailed analysis of the 1979 data see Chapter 5 and for 1980 see Chapter 6. In addition, see the discussion following these summary statements.
T.4 Student interaction with resource persons.	T.4.1 80% of the students will agree that their interaction with the resource persons are satisfactory.	T.4.1 In 1979, 80% and in 1980, 70% of the students agreed that their interactions with resource persons satisfactory. See the discussion following these summary statements.

VARIABLES	STANDARDS	SUMMATIVE OBSERVATIONS BASED ON OBSERVATIONS FROM EVALUATION 1979 and 1980
	T.4.2 The 2 resource persons will agree that their interactions with the students are satisfactory	T.4.2 In 1979 both of the resource persons and in 1980 one of the resource persons agreed that their interactions with students were satisfactory. In 1980 one resource person disagreed that interaction with students was satisfactory. See the discussion following these summary statements.
T.5 Student interaction with the professor.	T.5.1 80% of the students will agree that their interaction with the professor are satisfactory.	T.5.1 In 1979, 79% and in 1980, 54% of the students agreed that interaction with the professor was satisfactory. For a detailed analysis of the 1979 data see Chapter 5 and for 1980 see Chapter 6. In addition, see the discussion following these summary statements.
	T.5.2 The professor will agree that her interactions with the students are satisfactory.	T.5.2 In 1979 the professor did not agree that her interactions with students were satisfactory however in 1980 the professor did agree. See the discussion following these summary statements.
0.1 Modules are effective in that they are rated as valuable at the completion of the course.	0.1.1 80% of the students will agree each module is valuable, either yes or somewhat, at the completion of the course.	0.1.1 From 91% to 100% of the students that each module was valuable, either yes or somewhat, at the completion of the course.

	VARIABLES	STANDARDS	SUMMATIVE OBSERVATIONS BASED ON OBSERVATIONS FROM EVALUATION 1979 and 1980
		0.1.2 The 2 resource persons will agree that each module is valuable, either yes or somewhat.	0.1.2 The resource persons in 1979 and 1980 rated each of the modules as valuable, yes or somewhat.
OUTCOMES	0.2 Modules are effective in that the stated objectives are met by the students.	0.2 80% of the students will agree that they have met the stated objective of the module.	0.2 In 1979, 80% of the students agreed that they had met the stated objectives of modules 2, 3, 5, 9, 11, 12 and 14. For a detailed analysis of the data see Chapter 5. In 1980, 83-96% of the students agreed that they had met the stated objectives of modules 1-12. For a detailed analysis of the data see Chapter 6. In 1980, the modules were renumbered by adjusting the number of each module back 1. For example, Module 2 became 1, and so on. Therefore 80% and more of the students agreed that they had met the objectives for the following modules for 1979 and 1980: 1, 2, 4, 8, 10 and 11. Since the rate of module feedback evaluation returns was approximately the same for both years, the revisions after 1979 seem to be responsible for the students meeting the objectives for the following modules: 3, 5, 6, 7 and 12.
	0.3 Modules are meeting the needs of students in that they increase students' competencies.	0.3.1 80% of the students will agree that each of the modules has increased their competencies.	0.3.1 In 1979, 80% of the students agreed that the following modules had increased their competencies: 2, 3, 4, 5, 7, 8, 9, 11, 12 and 13. For a detailed analysis of the data see Chapter 5. In 1980, 84-100% of the students agreed that the modules from 1 to 12

VARIABLES	STANDARDS	SUMMATIVE OBSERVATIONS BASED ON OBSERVATIONS FROM EVALUATION 1979 and 1980
		had increased their competencies. For a detailed analysis of the data see Chapter 6. In 1980, the modules were renumbered by adjusting the number of each module back 1. For example, module 2 became 1 and so on. Therefore 80% and more of the students agreed that the following modules had increased their competencies: 1, 2, 3, 4, 6, 7, 8, 10 and 12. Since the rate of module feedback evaluation returns was approximately the same for both years, the revisions after 1979 seem to be responsible for module 5 increasing students' competencies in 1980.
	0.3.2 80% of the students will agree that the use of modules in this course allowed them to increase their competencies according to their own needs.	0.3.2 From 85-94% of the students agreed that the use of modules in this course allowed them to increase their competencies when queried at the end of the course.
0.4 Student population exit characteristics - attitude toward textile science.	0.4 Student population post-attitude scale will not indicate a significantly more negative attitude towards textile science than pre-attitude scale.	0.4 The student population did not indicate a significantly more negative attitude toward textile science on any of the attitude statements or pairs in the attitude scale between post and pre self-ratings. In 1979 the total student population indicated a significantly more positive attitude toward textile science on the following attitude statements: 1,2,3,4,5,7,9,10,12,13,14, and the following attitude pairs: 15,16,21.

VARIABLES	STANDARDS	SUMMATIVE OBSERVATIONS BASED ON OBSERVATIONS FROM EVALUATION 1979 and 1980
		For a detailed analysis of the 1979 data see Chapter 5. In 1980 the total student population indicated a significantly more positive attitude toward textile science on the following attitude statements: 1, 4, 5, 10, 11 and 14; and the following attitude pairs: 15, 18, 19, 21, and 22. For a detailed analysis of the 1980 data see Chapter 6.
0.5 Student population exit characteristics - competency in textile science.	0.5 Student population will not self-rate themselves significantly less competent on any of the fourteen competencies.	0.5 Student population did not self-rate themselves significantly less competent on any of the fourteen competencies developed for the course. In 1979 the total student population rated themselves significantly higher on all of the fourteen competencies. In 1980, the total student population rated themselves significantly higher on the following competencies: 1, 6 and 7.

6

Conclusion

The comments provided in this introduction are relevant for understanding and interpreting the conclusions of the evaluation that follow. The antecedents listed in the summary statements correspond directly to the first set of comments. The student population definitely reported varying academic backgrounds and varying career aspirations in 1979 and 1980. There were no significant differences between the 1979 and 1980 student population. These two conclusions were drawn from the students' report of their GPA's, faculties, major area of study, year of program, Chemistry background, attitudes toward textile science and self-ratings of course competencies.

In addition, one of the transactions deserves comment. That transaction is the CML system. In 1979, the SAIT system was used for CML purposes. At times, the access to the SAIT system did not function properly and the students experienced a great deal of frustration. However, steps were taken that improved the situation immediately after its occurrence. In 1980, the PLATO system, since it had been secured by the University, was used for CML purposes. Because the PLATO system was different than the SAIT system it had different capabilities. As a result, the students in 1980 also experienced frustration with the CML system. Again as in 1979, steps were taken that improved the situation immediately after its occurrence.

The conclusions presented in this section are responses to the summative evaluation questions. The responses are based on the data presented in the preceding summary statements under the column, summative observations based on observations from evaluations 1979 and 1980.

Question 1. Are the innovative teaching/learning systems further meeting the learning needs of students with varying academic backgrounds and varying career aspirations?

The transactions that were identified in the summary statements correspond directly to this question.

The student rating of the efficiency, effectiveness and appropriateness of the modularized system of teaching/learning in Clothing and Textiles 309 was more positive in 1980 than in 1979. In 1980, the professor agreed that the use of modules in this course was effective, efficient and appropriate. The resource persons, in 1980, rated the use of modules in this course as effective and efficient. One resource person agreed and one did not agree that the use of modules in this course was appropriate. See the comments that follow under the judgements and recommendations section.

The teaching/learning system implemented in Clothing and Textiles 309 also had a CML component. The student ratings of the CML system according to efficient access to self-testing, self-pacing, self-tracking, appropriateness, and enjoyability, were extremely more positive in 1980 than in 1979. The professor in 1980 also strongly agreed that the use of CML was effective, efficient and appropriate. The resource persons reported agreement and disagreement according to the use of CML as effective, efficient and appropriate in Clothing and Textiles 309. In addition, the modularized system of teaching/learning allowed for students interaction with other students, resource persons and professors. In 1979, 83% and in 1980, 75% of the students agreed their interactions with other students were satisfactory. In 1979, 80% and in 1980, 70% of the students agreed that their interactions with resource persons were satisfactory. In 1979, 79% and in 1980, 54% of the students agreed that their interactions with the professor were satisfactory. See the comments that follow under the judgements and recommendations section.

In conclusion, the standard that was developed, that is that 80% of the students, agreed that the use of the modularized method, in this course was effective, efficient and appropriate was achieved. Furthermore, the standard that 80% of the students agreed that the use of CML in this course was efficient, effective (it allowed self-pacing and self-tracking), appropriate and enjoyable, was achieved.

The professor in 1980 strongly agreed that the use of the modularized system and the CML system was effective, efficient and appropriate. The resource persons agreed and disagreed that the use of the modularized and CML systems in Clothing and Textiles 309 were effective, efficient and appropriate.

The standard that 80% of the students would agree that their interactions with other students, resource persons and professor was not achieved. The ratings on all the three different types of interactions were less positive in 1980 than in 1979. See the comments that follow under the judgements and recommendations section.

Question 2. Are the related teaching materials further meeting the learning needs of students with varying academic backgrounds and varying career aspirations?

The outcomes that were presented in the summary statements on the preceding pages correspond directly to this question.

When questioned at the end of Clothing and Textiles 309 from 91 - 100% of the students rated each of the modules valuable, either yes or somewhat. The resource persons and professors also rated each of the modules valuable, either yes or somewhat at the completion of Clothing and Textiles 309. Furthermore, 83 - 96% of the students, in 1980, agreed that they had met the stated objectives of all of the modules, after they had completed the modules during the term. In addition, 85 - 94% of the students, in 1980, agreed that the use of modules had allowed them to increase their competencies when queried at the end of the course. When queried during the term, after each module was completed, 84 - 100% of the students agreed that the modules had increased their competencies.

In conclusion, the standards that were developed, that is, that 80% of the students agreed that the related teaching materials, the modules, were valuable, that they met the stated objectives of the modules and that the modules allowed them to increase their competencies were all achieved in 1980. In fact, most of the ratings extended well beyond the 80% standard. Furthermore the standard applying to the resource persons and professor ratings of the modules was also reached.

Finally, an analysis of the data showed that the achievement of the standards did not have any negative side effects on the students attitudes toward textile science. In fact, the analysis of the data showed that a significantly more positve attitude toward textile science was evident in some cases. The achievement of the standards appears congruent with the students' self-rating of competencies in textile science. That is, students did not rate themselves significantly less competent on any of the competencies but, in fact, rated themselves significantly more competent on some of the competencies.

Judgements and Recommendations

Judgement: An analysis of the data, that was collected in relation to the standards that the resource persons would rate the use of modules and the use of CML in Clothing and Textiles 309 as effective, efficient and appropriate, indicated that the standards were not achieved.

Recommendations:

1. The modularized and CML systems be continued to be explained as they have over the last two years, to the resource persons at the beginning of the course to clarify and discuss student role, resource person role, professor role and procedures.
2. If funds, time, and manpower are available, interviews with the resource persons might supply further explanation of the ratings.

Judgement: An analysis of the data that was collected in relation to the standard that 80% of the students in Clothing and Textiles 309 agree that the interactions with other students resource persons and professors were satisfactory, indicated that this standard was not achieved.

Recommendation:

1. The modularized system be continued to be explained at the beginning of the term, at it has over the last two years, to clarify and discuss student roles, resource person roles, professor role and procedures.

In conclusion, the modularized system, and the related learning materials, the twelve modules, have been highly successful in Clothing and Textiles 309 with two very minor limitations. It is high recommended that the modularized system and related learning materials be continued to be implemented in Clothing and Textiles 309 and that evaluation be ongoing to supply feedback for revisions.

FAMILY STUDIES 440

This section presents a summary account of the two evaluation designs implemented in Family Studies 440 as part of the evaluation of the Innovative Project. The first evaluation was implemented from September 1979 to December 1979 and the second evaluation was implemented from September 1980 to December 1980. A detailed account of the design and results of the September 1979 to December 1979 evaluation were reported in the Chapter 5 and a detailed account of the design and results of the September 1980 to December 1980 evaluation were reported in Chapter 6.

Following the summary account of the two evaluation designs is a conclusion section. This discussion is made of two parts. The first part reviews aspects of this course that are relevant for understanding and appreciating the conclusions. Then the conclusions are discussed. They are related to the questions that were identified for the summative evaluation of Family Studies 440. Those two questions were:

1. Are the innovative teaching/learning systems further meeting the learning needs of students with varying academic backgrounds and varying career aspirations?

2. Are the related teaching materials further meeting the learning needs of students with varying academic backgrounds and varying career aspirations?

The next part is the judgements and recommendations section.

Summary Statements

INNOVATIVE PROJECT
FAMILY STUDIES 440

	VARIABLES	STANDARDS	SUMMATIVE OBSERVATIONS BASED ON OBSERVATIONS FROM EVALUATION 1979 and 1980
ANTECEDENTS	A.1 Student population entry characteristic - academic background.	A.1 Student population will have varying academic background.	A.1 The student population reported GPA's ranging from 2.50 to 8.80.
	A.2 Student population entry characteristics - faculty enrolment.	A.2 Student population will be enrolled in a variety of faculties.	A.2 The student population was enrolled in a variety of faculties. The majority of the students were enrolled in H.Ec. The next highest percentage were enrolled in Ed. Very limited numbers were enrolled in Arts, B.Comm., Phys Ed. and Rec., and Grad Studies.
	A.3 Student population entry characteristics - year of program.	A.3 Student population will be enrolled in a variety of years of programs.	A.3 The student population was enrolled in a variety of years of their programs ranging from first year to sixth year. Most of the students were enrolled in second and third year.
	A.4 Student population entry characteristics - prerequisite courses.	A.4 Student population will have varied prerequisite courses either Econ. 201/202 or Econ. 306/307 or no courses.	A.4 The student population did have a variety of prerequisite courses in their backgrounds. Analysis of the information in the University Calendar showed that B.Comm. and B.Sc.H.Ec. (Family Studies and Clothing and Textiles) are required to completed Econ. 201/202 or Econ. 306/307 as part of their programs. B.Ed. students made up the bulk of the remainder of the class. In 1979, 87% and in 1980, 64% of the B.Ed. students did not

	VARIABLES	STANDARDS	SUMMATIVE OBSERVATIONS BASED ON OBSERVATIONS FROM EVALUATION 1979 and 1980
			have the desired prerequisite courses. See the discussion following these summary statements.
	A.5 Student population entry characteristics - attitude towards economics.	A.5 Student population will have a range of attitudes towards economics.	A.5 The student population did have a range of attitudes towards economics as reported by self-ratings of 14 attitude statements and 8 paired attitude descriptions. For detailed analysis of 1979 data see Chapter 5 and for 1980 data see Chapter 6.
TRANSACTIONS	T.1 Student involvement with modular method as means for obtaining prerequisite.	T.1.1 80% of the students that complete or partly completed the economics module agree that it is an appropriate learning method (Appendix 66, Question 17).	T.1.1 85% of the students that completed or partly completed the economics module agreed that the module was an appropriate learning method for economics.
		T.1.2 The professor agrees that the economics module is an appropriate learning method (Appendix 78, Question 17).	T.1.2 The two professors that had been responsible for the course, with the inclusion of the economics module, both agreed that the economics module was an appropriate learning method.

	VARIABLES	STANDARDS	SUMMATIVE OBSERVATIONS BASED ON OBSERVATIONS FROM EVALUATION 1979 and 1980
OUTCOMES	0.1 Modules were printed to accommodate i) the students that do not have the Econ. prerequisite courses included in their program of study; ii) any students that wanted a review of Economics.	0.1 50% of the students that do not have the prerequisite will purchase and complete or partly complete the module.	0.1 Less than 50% of the students that did not have the prerequisite courses, completed or partly completed the economics module. For detailed analysis of 1979 data see Chapter 5 and for 1980 data see Chapter 6. In addition see the discussion following these summary statements.
	0.2 Module is effective in that the stated objectives are met by students.	0.2 80% of the students that completed or partly completed the module agree that they have met the stated objectives (Appendix 66, Question 3).	0.2 Only 77% of the students that completed or partly completed the economics module agreed that they met the stated objectives of the module. See the discussion following these summary statements.
	0.3 Module is meeting the needs of students in that it increased competency in economics.	0.3 80% of the students that completed or partly completed the module agree that the module has increased their competency in economics.	0.3 About 77% of the students that completed or partly completed the economics module agreed that the module has increased their competency in economics. See the discussion following these summary statements.

VARIABLES	STANDARDS	SUMMATIVE OBSERVATIONS BASED ON OBSERVATIONS FROM EVALUATION 1979 and 1980
0.4 Module is meeting needs of students in that students without prerequisite courses can learn from module.	0.4.1 There will be no significant difference between the mean GPA for the students without prerequisite courses and the mean GPA for the students with prerequisite courses.	0.4.1 There were no significant differences at the .05 level in the reported mean GPA's for the students in the following three groups: students without any of the suggested prerequisite courses, students with the suggested prerequisite courses, and students without any of the suggested prerequisite courses but who had completed or partly completed the economics module. For a detailed analysis of 1979 data see Chapter 5 and for 1980 data see Chapter 6.
	0.4.2 Mean final grade score for those students without prerequisite courses and completing or partly completing the module will not be significantly different from mean final grade score of those students with the prerequisite courses, if there is no significant difference between the mean GPA of these two groups.	0.4.2 There were no significant differences at the .05 level in the mean final grade scores for the students in the following three groups: students without any of the suggested prerequisite courses, students with the suggested prerequisite courses, and students without any of the suggested prerequisite courses but who had completed or partly completed the economics module. For a detailed analysis of 1979 data see Chapter 5 and for 1980 data see Chapter 6.

VARIABLES	STANDARDS	SUMMATIVE OBSERVATIONS BASED ON OBSERVATIONS FROM EVALUATION 1979 and 1980
0.5 Student population exit characteristics-attitude towards economics.	0.5 Student population post-attitude scale will not indicate a significantly more negative attitude towards economics than the pre-attitude scale.	0.5 The student population did not indicate a significantly more negative attitude towards economics in the post-attitude rating than in the pre-attitude rating. For a detailed analysis of the 1979 data see Chapter 5 and for 1980 see Chapter 6.
0.6 Course content will deal more exclusively with consumer issues rather than teaching and reviewing basic economics concepts.	0.6 Comparison of course content prior to module incorporation with that after module incorporation by analyzing course outlines.	0.6 The course content has dealt more exclusively with consumer issues rather than teaching and reviewing basic economic concepts, since the incorporation of the economics module into the course.

Conclusion

The comments provided in this introduction are relevant for understanding and interpreting the conclusions of the evaluation that follow. The first comment is that the professor that initiated and developed the economics module which was used in Family Studies 440 in 1979 was granted study leave beginning in 1980. Therefore a different professor taught Family Studies 440 in 1980. In an interview with the 1980 professor, she mentioned that she did stress the importance of an economics background for the course and that she suggested that the economics module was available in the bookstore for those that did not have the appropriate economics background and also for those that desired a review. It was then left to the individual student to make a decision regarding the economics module.

The second and last comment directly corresponds to the antecedents listed in the summary statements on the preceding pages. The student population definitely reported varying academic backgrounds and varying career aspirations in 1979 and 1980. There were no significant differences between the 1979 and 1980 student population. These two conclusions were drawn from the students' report of their GPA's, faculties, major areas of study, year of program, Chemistry background, and attitudes toward economics.

The conclusions presented in this section are responses to the summative evaluation questions. The responses are based on the data presented in the preceding summary statements under the column, summative observations based on observations from evaluations 1979 and 1980.

Question 1. Are the innovative teaching/learning systems further meeting the learning needs of students with varying academic backgrounds and varying career aspirations?

The transactions that were identified in the summary statements correspond directly to this question. In conclusion, the standards that were developed, that is, that 80% of the students that completed or partly completed the economics module and the professor, agreed that it was an appropriate learning method, were achieved.

Question 2. Are the related teaching materials further meeting the learning needs of students with varying academic backgrounds and varying career aspirations?

The outcomes that were presented in the summary statements on the preceding pages correspond directly to this question.

In conclusion, one of the standards that was developed stated that 50% of the students that do not have the prerequisite economics courses would purchase and complete or partly complete the economics module. This standard was not reached. Over the two years 1979 and 1980, 25 - 30% of the students that did not have the prerequisite economics courses purchased and completed or partly completed the module. See the comments that follow under recommendations.

A second and third standard stated that 80% of the students that completed or partly completed the economics module would agree that they had met the stated objectives of the module and that the module had increased their competency in economics. In 1979 and 1980, 77% of the students agreed to the above two standards. Since 77% was so close to 80%, it was decided that the second and third standards were achieved.

A fourth standard stated that the module was meeting the needs of students in that the mean final grade score of those students, without prerequisite courses, who had completed or partly completed the economics module, would not be significantly different from the mean final grade score of those students with prerequisite courses. This standard was developed from the information that there was no significant difference between the reported GPA's on the two groups. This standard was achieved.

A fifth standard stated that student post-attitudes toward economics would not be significantly more negative than student pre-attitudes toward economics. That is, students reported more positive attitudes toward economics at the end of Family Studies 440 than they had at the beginning of the course.

Furthermore, both professors that have taught the course agreed that the content dealt more exclusively with consumer issues rather than teaching and reviewing basic economic concepts.

Judgements and Recommendations

Judgement: An analysis of the data that was collected in relation to the standard that 50% of the students that do not have the prerequisite economics courses will purchase and complete or partly complete the module, indicated that the standard was not achieved.

Recommendations:

1. The standard be lowered; or
2. That some incentive or reward be established for completing or partly completing the module. Some examples are a test in basic economics concepts, a

seminar at the beginning of the course on basic economic concepts, or marks allocated for completing the assignments in the module.

In conclusion, it appears that more structure, relating to the economics module, has to be incorporated into Family Studies 440 if the standard, that was originally developed, is to be achieved.

FAMILY STUDIES 444

This section presents a summary account of the two evaluation designs implemented in Family Studies 444 as part of the evaluation of the Innovative Project. The first evaluation was implemented from September 1979 to December 1979 and the second evaluation was implemented from September 1980 to December 1980. A detailed account of the design and results of the September 1979 to December 1979 evaluation were reported in the Chapter 4 and a detailed account of the design and results of the September 1980 to December 1980 evaluation were reported in Chapter 6.

Following the summary account of the two evaluation designs is a conclusion section. This discussion is made of two parts. The first part reviews aspects of this course that are relevant for understanding and appreciating the conclusions. Then the conclusions are discussed. They are related to the questions that were identified for the summative evaluation of Family Studies 444. Those two questions were:

1. Are the innovative teaching/learning systems further meeting the learning needs of students with varying academic, experiential backgrounds, and varying career aspirations?

2. Are the related teaching materials further meeting the learning needs of students with varying academic, experiential backgrounds, and varying career aspirations?

The next part is the judgements and recommendations section.

Summary Statements

INNOVATIVE PROJECT
FAMILY STUDIES 444

	VARIABLES	STANDARDS	SUMMATIVE OBSERVATIONS BASED ON OBSERVATIONS FROM EVALUATION 1979 and 1980
ANTECEDENTS	A.1 Student population entry characteristics - academic bakground.	A.1 Student population will have varying academic backgrounds.	A.1.1 The student population reported varying academic backgrounds ranging from a low GPA of 5.10 to a high GPA of 8.33. Individual self-reported GPA's ranged from 5.10 to 7.90 in 1979 and from 5.10 to 8.33 in 1980. The mean self-rated GPA was 6.44 in 1979 and 7.03 in 1908.
	A.2 Student population entry characteristics - psychology courses background.	A.2 Student population will have a variety of psychology courses in their backgrounds.	A.2 The student population reported having a variety of psychology courses in their backgrounds. In 1979, 17% of the students and in 1980, 24% of the students reported having taken or taking Psychology courses. However, none of the psychology courses reported by the students had an interviewing component in them.
	A.3 Student population entry characteristics - Family Studies 359 (communication course).	A.3 Student population will be varied as to having Family Studies 359 in their programs.	A.3 The student population was varied as to having Family Studies 359 in their backgrounds. 30% of the students in 1979 and 48% of the students in 1980 reported that they had taken or were taking Family Studies 359. Family Studies 359 does include an introduction to interpersonal communication, group dynamics and program planning which are all topics included in Family Studies 444.

	VARIABLES	STANDARDS	SUMMATIVE OBSERVATIONS BASED ON OBSERVATIONS FROM EVALUATION 1979 and 1980
	A.4 Student population entry characteristics - experience in program planning.	A.4 Student population will have had varying experience in program planning.	A.4 The student population did report varying experiences in program planning. In 1979, % of the students and in 1980, 36% reported experience in program planning. The experience included both planning and programs in a variety of settings, including the university and the community.
	A.5 Student population entry characteristics - experience in counseling.	A.5 Student population will have had varying experience in counseling.	A.5 The student population reported varying experiences in counseling. In 19769, 8% and in 1980, 24% reported experience in counseling. The reported experiences included: social work, crisis telephone counceling, student counseling, counseling courses and small group counseling.
TRANSACTIONS	T.1 Student involvement with modularized method of teaching/learning.	T.1.1 80% of the students rate the modularized method as effective, efficient and appropriate.	T.1.1 In 1979, the students reported this information in focused group interviews. Although a small number of the students reported, 21% the modularized method was viewed positively overall. The students suggested some revisions to the methodology. These are listed in Chapter 5. In 1980, the students reported the information on the modularized method via a questionnaire. 72% of the students reported the use of modules was effective, 63% reported the use of modules was efficient and 72% reported the use of modules was appropriate. Further explanation of this data is presented in Chapter 6. In addition, see the discussion following these summary statements.

	VARIABLES	STANDARDS	SUMMATIVE OBSERVATIONS BASED ON OBSERVATIONS FROM EVALUATION 1979 and 1980
		T.1.2 The professor and 1 resource person rate the modularized method of teaching/learning as effective, efficient and appropriate.	T.1.2 The resource persons in 1979 and 1980 agreed that the use of modularized method in this course was effective, efficient and appropriate. The professor agreed that the use of modules in this course was effective, efficient and appropriate in 1979. In 1980, she reported that the use of modules in this course was effective but was uncertain that the extensive use of modules was efficient or appropriate.
	T.2 Student interactions with resource persons and professor.	T.2 80% of the students, the professor and the 2 resource persons rate the student-instructional staff interaction as satisfactory.	T.2 Over 80% of the students, professor and the resource persons rated the student-instructional staff interaction as satisfactory. In 1979, a sample sample, 21% of the students, reported this information and it was reported in focused group interviews. In 1980, the student reported this information via questionnaire and 92% rated the student-instructional staff interaction as satisfactory.
O U T C O M E S	0.1 Modules are effective in that the stated objectives are met by students.	0.1 80% of the students will agree that they have met the stated objectives of the module.	0.1 In 1979, 80% of the students agreed that they had met the stated objectives of the following modules: 1N1, 1N2, 1N4, 1N6, 1N7, 1N10, PP1, PP2, and PP3. For a more detailed analysis see Chapter 5. In 1980, 80% of the students agreed that they had met the stated objectives of the following TO modules: 1N1, 1N2, 1N4, 1N5, 1N7, PP1, PP2, PP3, PP4, PP5, PP7 and PP8. For a more detailed analysis see Chapter 6. Therefore, 80% of the students agreed that they had met the stated objec- tives of the following modules for both 1979 and 1980: 1N1, 1N2, 1N4, 1N7, PP7, PP2, and PP3.

VARIABLES	STANDARDS	SUMMATIVE OBSERVATIONS BASED ON OBSERVATIONS FROM EVALUATION 1979 and 1980
		Also in 1980, two modules were designed for the microcomputers: Mod 1 The Interview and Mod 2 Affective Domain. Limited data on these two modules were collected in the evaluation. However, the professor collected feedback.
0.2 Modules are effective in that they are rated as valuable in learning the content of the course, at the end of the course.	0.2 80% of the students will agree each module is valuable, or somewhat valuable, in learning the content of the course, at the end of the course.	0.2.1 In 1980, 86-100% of the students agreed that each module was valuable, or somewhat valuable in learning the content of the course when queried at the completion of the course. For a more detailed analysis see Chapter 6. This information was not solicited from the 1979 students.
		0.2.2 In 1980, the resource person agreed that each module was valuable, either yes or somewhat, in learning the content of the course. This information was not solicited in 1979.
0.3 Modules are meeting the needs of students in that they increase the students competen-	0.3.1 80% of the students will agree that each of the modules has increased their competency.	0.3.1 In 1979, 80% of the students agreed that the following modules had increased their competencies: 1N6, 1N8, PP2, PP3, PP4 and PP6. For a more detailed analysis see Chapter 5. In 1980, 80% of the students agreed that the following modules had increased their competencies: 1N1, 1N2, 1N3, 1N4, 1N5, 1N6, 1N7, PP4, PP5, PP7 and PP8. For a more detailed analysis see Chapter 6.

VARIABLES	STANDARDS	SUMMATIVE OBSERVATIONS BASED ON OBSERVATIONS FROM EVALUATION 1979 and 1980
		Therefore, 80% of the students had agreed that they had met the stated objectives of the following modules for both 1979 and 1980: 1N6 and PP4. See the discussion following these summary statements.
	0.3.2 80% of the students will agree that the use of modules in this course allowed them to increase their competencies according to their own needs.	0.3.2 In 1980, 80% of the students did agree that the use of modules in this course allowed them to increase their competencies according to their own needs when queried at the end of the course. This information is not available for 1979.

Conclusion

The comments provided in this introduction are relevant for understanding and interpreting the conclusions of the evaluation that follow. The first comment provides background information on Family Studies 444. It is a methods course that focuses primarily on two topics: program planning and interviewing. The course attempts to supply the students with the necessary knowledge and skills to become effective program planners and interviewers. Prior to 1979, basic interviewing skills were taught through a microcounselling approach and program planning was taught by the lecture-laboratory teaching/learning approach. In 1979 the course content was represented in nineteen modules and the modularized system of teaching/learning was implemented. The students that were presented with the modularized system of teaching/learning did have some awareness that this change was being implemented in Family Studies 444. However, this course was compulsory for all fourth year of Family Studies students and there was no alternative choice of teaching/learning system other than the modularized approach. In review, the above comments are important for two reasons. The first reason is that the content of the course is relatively abstract and subjective. The second reason is that in 1979 the students were presented with a different system of teaching/learning than had been used previously in Family Studies 444.

The second comment relates directly to the antecedents listed in the preceding summary statements. The student population definitely reported varying academic and experiential backgrounds, and varying career aspirations in 1979 and 1980. Furthermore the 1980 student population different significantly from 1979 student population in their experiential backgrounds in terms of increased program planning and counselling experiences.

Another comment relates to the observations of the evaluations in Family Studies 444, or in other words, the data collection procedures. In 1979, the focused group interview was used to collect data from the students at the end of the term. Since the number of students that came to the interviews was extremely limited (21%), it was decided in 1980, to administer a questionnaire to the students at the end of Family Studies 444. One hundred percent of the students responded to the questionnaire.

Another comment is directly related to the modules. In order to collect data on the effectiveness of the modules, the students were requested to fill in module evaluations. In 1979, each student was requested to evaluate four of the modules and in 1980, each student was requested to evaluate each of the modules. However, in both years, the responses for some of the modules was extremely limited. In some cases only one evaluation was received. In 1980 there were very few evaluations handed in on the interview modules. However, the information obtained was considered when making recommendations for revisions. The results of the analysis of the evaluations have been presented in the summary statements and the number of evaluations received has been recorded in the respective table for each of the modules.

Finally, there were several recommendations suggested as a result of the 1979 formative evaluation and since these were implemented, the conclusions that follow will emphasize the 1980 evaluation results, when appropriate, more so than a combination of 1979 and 1980 results. For a detailed account of the recommendations following the formative evaluation in 1979 see Chapter 5.

The conclusions presented in this section are responses to the summative evaluation questions. The responses are based on the data presented in the preceding summary statements under the column, summative observations based on observations from evaluations 1979 and 1980. As discussed previously, the results from 1980 will be emphasized, when appropriate, more so than a combination of 1979 and 1980 results.

Question 1. Are the innovative teaching/learning systems further meeting the learning needs of students with varying academic backgrounds and varying career aspirations?

The transactions that were identified in the summary statements correspond directly to this question.

In 1980, 72% of the students agreed the use of modules in Family Studies 444 was effective, 63% agreed the use was efficient and 72% agreed the use was appropriate. Furthermore, in 1979 and 1980 the resource persons agreed that the use of modules in Family Studies was effective, efficient and appropriate. The professor agreed similarly in 1979 but in 1980 she was uncertain if the use of modules were efficient or appropriate. See comments that follow under recommendations. It was decided that 72% was close enough to 80% that it be concluded that the standards developed for students ratings of the use of modules in Family Studies 444 as effective and appropriate were achieved. However, the standard developed for student ratings of the use of modules in Family

Studies 444 as efficient was not achieved. See comments that follow under the judgements and recommendations section.

Furthermore the standard that was developed that stated that the resource persons rated the use of modules in Family Studies 444 as effective, efficient and appropriate was also achieved. However, the standard that was developed that stated that the professor rated the use of modules in Family Studies 444 as efficient and appropriate was not achieved in 1980. The above results were made available to the professor. See comments that follow under the judgement and recommendations section.

Question 2. Are the related teaching materials further meeting the learning needs of students with varying academic backgrounds and varying career aspirations?

The outcomes that were presented in the summary statements on the preceding pages correspond directly to this question.

Finally, the standard that was developed for student-resource person and student-professor interactions was achieved. That is, over 80% (92%) of the students, the resource persons and the professor rated the interactions as satisfactory.

When questioned during the 1980 term, at the completed of each module, 80% or more of the students agreed that they had met the stated objectives of the following modules - 1N1, 1N2, 1N4, 1N5, 1N7, PP1, PP2, PP3, PP4, PP5,PP7 and PP8 (The evaluation feedback was extremely limited for the interviewing modules). See comments that follow under the judgements and recommendations section. Furthermore, when questioned at the end of the course, from 86 - 100% of the students agreed that each of the modules were valuable, either yes or somewhat in learning the content of the course. In addition, the resource persons and professor also rated that each of the modules was valuable, either yes or somewhat when questioned at the end of Family Studies 444.

In 1980, 80% of the students agreed that the following modules had increased their competencies when questioned at the completion of each module during the term: 1N6, 1N8, PP2, PP3, PP4 and PP6. When the students were questioned at the end of the course, 80% agreed that each of the modules had allowed them to increase their competencies.

In conclusion, one of the standards that was developed that stated 80% of the students met the stated objectives of the modules was achieved for some of the modules. See the comments that follow under the judgements and recommendations section. Another standard that was developed that stated 80% of the students, the resource persons and the professor rated the modules as valuable, either yes or somewhat, was achieved. This standard percentage was surpassed by 6 - 20%. Another standard that stated 80% of the students agreed that the use of modules in Family Studies allowed them to increase their competencies according to their needs when questioned at the end of the course was also achieved. However the standard that stated that 80% of the students agreed during the course after each module was completed, that each of the modules allowed them to increase their competencies according to their needs was achieved for some of the modules. See the comments that follow under the judgements and recommendations section.

Judgements and Recommendations:

Judgement: An analysis of the data, that was collected in relation to the standard that 80% of the students would rate the modularized system of teaching/learning in Family Studies 444 as efficient, indicated that the standard was not achieved.

Recommendations:

1. More comments regarding the efficiency of the system be solicited from students; and/or
2. Cross-tabulations be conducted of student rating with student's past academic and experiential backgrounds; and/or
3. The 80% standard developed for efficiency is a relatively high standard to achieve in only 2 years. The standards could be lowered or the modularized system of teaching/learning could be continued and feedback regarding its efficiency be continued to be collected; and/or
4. Further investigations be carried out to analyze this relationship between efficiency and the course content of Family Studies 444. In other words, given the course content, is there a more efficient method of allocating the workload to the students using the modularized system of teaching/learning. For example what is the most efficient number of modules given the course content? Another example, how much content should be included in each module? These questions were not included in the evaluation designs. However, because of the results of the evaluations, the professor has initiated discussion of these questions.

Judgement: An analysis of the data that was collected in relation to the two standards that were developed that stated that: 80% of the students met the stated objectives of each of the modules, and 80% of the students agreed that each of the modules increased their competencies, indicated that the standard was not achieved.

Recommendations:

1. A complete analysis of the evaluation feedback for each of those modules be conducted; and

2. If there are limited evaluation forms, that an alternative method of evaluating those modules be conducted. One alternative method that the professor used successfully last year was to pay former students to evaluate. Another alternative could be to have the students meet in small groups after a module is completed and to conduct an in-depth evaluation of that module in a small group setting at that time.

In conclusion, the modularized system of teaching/learning and use of related materials, the modules, in Family Studies 444 has been reasonably successful with some limitations. It is recommended that the modularized system and related learning materials be continued to be used in Family Studies 444 and that evaluation continue on an ongoing basis until satisfactory standards have been reached.

FOODS AND NUTRITION 325/326

This section of the report is the summary account of the two evaluation designs implemented in Foods and Nutrition 325/326 as part of the evaluation of the Innovative Project. The first evaluation was implemented from September 1979 to December 1979 and the second from September 1980 to December 1980. A detailed account of the design and results of the September 1979 to December 1979 evaluation were reported in Chapter 5 and a detailed account of the design and results of the September to December 1980 evaluation are reported in Chapter 6.

The summary account of the two evaluation designs is followed by a conclusion section. This discussion is comprised of two parts. The first reviews aspects of the course that are relevant for understanding and interpreting the conclusions. Then the conclusions are discussed.

They are related to the questions that were identified for the summative evaluation of Foods and Nutrition 325/326. These two questions were:

1. Are the innovative teaching/learning systems further meeting the learning needs of students with varying academic backgrounds and varying career aspirations?
2. Are the related teaching materials further meeting the learning needs of students with varying academic backgrounds and varying career aspirations?

The next part is the judgements and recommendations section.

Summary Statements

INNOVATIVE PROJECT
FOODS AND NUTRITION 325/326

	VARIABLES	STANDARDS	SUMMATIVE OBSERVATIONS BASED ON OBSERVATIONS FROM EVALUATION 1979 and 1980
ANTECEDENTS	A.1 Student population entry characteristics - academic background.	A.1 Student population will have varying academic background.	A.1.1 The student population reported GPA scores ranging from 2 to 9. For a more detailed analysis for 1979 see Chapter 5 and for 1980 see Chapter 6.
	A.2 Student population entry characteristics - faculty enrolment.	A.2 Student population will be enrolled in a variety of faculties.	A.2 The student population were enrolled in a variety of faculties. In 1979, student composition was as follows: 3.8% Nursing, 25% B.Sc.H.Ec., 22% Education, 9% Phys. Ed. & Rec., 3% Science, 2% Special Students and 1% Graduate Studies. In 1980, the enrolment doubled and the student population was as follows: 72% Nursing, 11% B.Sc.H.Ec., 9% Education, 6% Phys. Ed. & Rec., 2% Science and 1% Special Student. A second section of this course was offered as an evening credit course. The majority of the students in the 1980 evening credit section were Nursing students.
	A.3 Student population entry characteristics - prerequisite courses.	A.3 Student population will have varied prerequisite courses, either Chem 200 or Chem 250, Physl. 260 261 or 262 or equivalent.	A.3 The student population reported a variety of chemistry and physiology courses in their educational backgrounds. In 1979, 18% reported having taken or were taking Chem 200, 48% reported having taken or were taking Chem 250, 11% reported having taken or were taking Physl 260, 19% reported having taken or were taking Physl 261 and 2% reported having taken or were taking Physl 262. In 1980, 17% reported having taken or were taking Chem

	VARIABLES	STANDARDS	SUMMATIVE OBSERVATIONS BASED ON OBSERVATIONS FROM EVALUATION 1979 and 1980
			200, 27% reported having taken or were taking Chem 250, 12% reported having taken or were taking Physl 260, 29% reported having taken or were taking Physl 261 and 16% reported having taken or were taking Physl 262. For a breakdown of chemistry and physiology courses in student educational backgrounds according to faculties for 1979 see Chapter 5 and for 1980 see Chapter 6.
	A.4 Student population entry characteristics - background in chemistry, cell physiology, and digestion and absorption.	A.4 Students will have a varying knowledge base in chemistry, cell physiology, and digestion and absorption.	A.4 The students varied in knowledge bases in chemistry, cell physiology and digestion and absorption as shown by the pre-test scores. In 1979, the pre-test scores ranged as follows: chemistry 37 - 93%, cell physiology 6 - 100% and digestion and absorption 23 - 93%. In 1980, the pre-test scores ranged as follows: chemistry 17 - 100%, cell physiology 0 - 100% and digestion and absorption 10 - 100%.
TRANSACTIONS	T.1 Student ratings of the use of modules in this course, i.e. student involvement with modularized method of teaching/learning.	T.1.1 80% of the students will agree that the use of modules in this course was effective, efficient and appropriate.	T.1.1 80% of the students have not agreed that the use of modules in this course was effective, efficient and appropriate. In 1979, the students reported the following: 58% agreed the use of modules in this course was effective, 54% agreed that it was efficient and 57% agreed the use of modules in this course was appropriate. The PLATO system was down for several days in 1979. For a more detailed analysis of the 1979 results see Chapter 5. In 1980 the students reported the following: 66% agreed the use of modules in this course was

VARIABLES	STANDARDS	SUMMATIVE OBSERVATIONS BASED ON OBSERVATIONS FROM EVALUATION 1979 and 1980
		effective, 54% agreed it was efficient and 61% agreed it was appropriate. For a more detailed analysis of the 1980 results see Chapter 6. In addition, see the discussion following for suggested recommendations.
	T.1.2 The two resource persons will agree that the use of modules in this course was effective, efficient and appropriate.	T.1.2 Resource persons were employed only in 1979. They agreed that the use of modules in this course was effective, efficient and appropriate.
	T.1.3 The professors will agree that the use of modules in this course was effective, efficient and appropriate.	T.1.3 The professors that taught this course agreed that the use of modules in this course was effective, efficient and appropriate. There was 1 professor in 1979. In 1980, there was the same professor plus an additional professor for the evening credit section.
T.2 Student interaction with resource persons.	T.2.1 80% of the students will agree that resource persons were readily available for consultation when students were doing the modules.	T.2.1 Resource persons were employed in 1979 only. 30% of the students agreed that the resource persons were readily available for consultation when they were doing the modules. For a more detailed analysis see Chapter 5. In addition see the discussion following for suggested recommendations.

	VARIABLES	STANDARDS	SUMMATIVE OBSERVATIONS BASED ON OBSERVATIONS FROM EVALUATION 1979 and 1980
		T.2.2 The two resource persons will agree that they were readily available for consultation when students were doing the modules.	T.2.2 As noted above, resource persons were employed in 1979 only. They agreed that they were readily available for consultation when students were doing the modules.
		T.2.3 The professor will agree that the resource persons were readily available for consultation when students were doing the modules.	T.2.3 As noted above, resource persons were employed in 1979 only. The professor agreed that resource persons were readily available for consultation when students were doing the modules.
OUTCOMES	0.1 Modules are effective in that the stated objectives are met by the students.	0.1.1 80% of the students will agree that they have met the stated objective of the modules.	0.1.1 In 1979, 80% of the students agreed that they had met the stated objectives of Module 2: Chemistry Concepts and Module 3: Cell Physiology. 64% agreed that they had met the stated objectives of Module 4: Digestion and Absorption. For a more detailed analysis see Chapter 5. In 1980, 78% of thestudents agreed that they met the stated objectives of Module 2: 84% of Module 3; and 87% of Module 4; 78% agreed they met the stated objectives of Module 2; Chemistry Concepts. For a more detailed analysis see Section 5.0, Volume II of this report.

VARIABLES	STANDARDS	SUMMATIVE OBSERVATIONS BASED ON OBSERVATIONS FROM EVALUATION 1979 and 1980
		See the discussion following for suggested recommendations.
	0.1.2 80% of the students will agree that the modules provided a background or foundation for the subjects introduced later in the course.	0.1.2 In 1979, 80-98% of the students agreed that all 3 modules provided a background or foundation for the subjects introduced later in the course: Module 2: Chemistry Concepts, Module 3: Cell Physiology, and Module 4: Digestion and Absorption. In 1980, 81% of the students agreed that Module 4 provided a background or foundation for the subjects introduced later in the course, 74% agreed that Module 3 had and 67% agreed Module 2 had. For a detailed analysis of the 1980 results, see Chapter 6.
0.2 Modules are meeting the needs of students in that they increase students' competencies.	0.2.1 80% of the students will agree that each of the modules had increased their competency.	0.2.1 The data from 1979 and 1980 combined showed that 81-91% of the students agreed that each of the three modules increased their competencies when queried during the course.
	0.2.2 80% of the students will agree that the use of modules in this course allowed them to increase their competencies according to their own needs.	0.2.2 In 1979, 49% of the students agreed that the use of modules in this course allowed them to increase their competencies when queried at the end of the course. For a more detailed analysis see Chapter 5. In 1980, 60% of the students agreed. For a more detailed analysis see Chapter 6. See the discussion following for suggested recommendations.

VARIABLES	STANDARDS	SUMMATIVE OBSERVATIONS BASED ON OBSERVATIONS FROM EVALUATION 1979 and 1980
0.3 Modules are meeting the needs of students in that they are made available to those students who desire information on chemistry, Cell Physiology, and Digestion and Absorption.	0.3 Those students that did not achieve 80% on the pre-tests had the opportunity to write the post-test. The highest grade of the two would be recorded.	0.3 The students that did not score 80% or higher on the pre-tests wrote the post-test one time. The highest grade of the two scores was recorded. In 1979 of those students who scored lower than 80% on the pre-test 46% scored 80% or higher on the Module 2: Chemistry Concepts post-test, 57% scored 80% or higher on the Module 3: Cell Physiology post-test and 40% scored 80% or higher on the Module 4: Digestion and Absorption post-test. For a more detailed analysis see Chapter 5. In 1980, of those students who scored lower than 80% on the pre-tests, 27% scored 80% or higher on the Module 2: Chemistry Concepts post-test; 51% scored 80% of higher on Module 3: Cell Physiology post-test and 26% scored 81% or higher on Module 4: Digestion and Absorption post-test. For a more detailed analysis see Chapter 6. In addition, see the discussion following for suggested recommendations.

Conclusion

The comments provided in this introduction are relevant for understanding and interpreting the conclusions of the evaluation that follow this introduction. The antecedents that were identifed in the summary statements corresponded directly to these comments.

The student population definitely reported varying academic backgrounds and career aspirations in both 1979 and 1980. Analysis of the data showed a considerable change in the academic background and career aspirations from 1979 to 1980. In 1980 the percentage of nurses enrolled increased from 4% in 1979 to 72%, thus, another section of the course was added in the evening. Most of the students in the evening section were the Nursing students. Many of the nursing students were older, working and out of university for about 10 years when compared to the regular day students.

The professor that taught the evening section of Foods and Nutrition 325/326 had not previously taught the course, and the modularized system of teaching/learning was new to her. She was also less familiar with the background needs of the students for the course than was the professor teaching the day section.

The conclusions presented in this section are in response to the summative evaluation questions. The responses are based on the data presented in the preceding summary statements under the column, summative judgements based on judgements from evaluations 1979 and 1980.

Question 1: Are the innovative teaching/learning systems further meeting the learning needs of students with varying academic backgrounds and varying career aspirations?

The transactions that were identified in the summary statements relate directly to this question.

Although the student make up of Foods and Nutrition 325/326 changed considerably from 1979 to 1980, because of a 68% increase in the number of nursing students, the student rating of the efficiency effectiveness and appropriateness of the modularized system of teaching/learning did not change significantly. Both professors who taught the course and resource persons agreed that the use of modules in this course was effective, efficient and appropriate.

The modularized system of teaching/learning implemented in Foods and Nutrition allowed for student interactions with resource persons. Resource persons were only employed in 1979 and only 30% of the students agreed that resource persons were readily available for consultation when the students were doing the modules. However, both the resource persons and professors ageed that the resource persons were readily available.

In conclusion, the standard that was developed, that is, that 80% of the students would agreed that the modularized method was effective, efficient and appropriate in Foods and Nutrition 325/326 in 1979 or 1980 was not reached. However, more students in 1980 rated the modularized system as effective, efficient and appropriate than had in 1979. See the comments that follow under the judgements and recommendations section. Furthermore, the standard that 80% of the students would agree that resource persons were readily available for consultation when students were doing the modules was not reached in 1979. In 1980, resource persons were not employed. Refer to the comments that follow under the judgements and recommendations section.

Question 2: Are the related teaching materials further meeting the learning needs of students with varying academic backgrounds and varying career aspirations?

The outcomes that were identified in the summary statements relate directly to this question.

The characteristics of the student population in Foods and Nutrition 325/326 changed considerably from 1979 to 1980. However, the percentage of students reported meeting the stated objectives of the modules did not change significantly except for Module 4: Digestion and Absorption.

Students were queried at the completion of the course as whether background or foundation for the remainder of the course. Replies differed somewhat between 1979 and 1980 for the Modules. Students in Foods and Nutrition 325/326 also rated the modules according to their helpfulness in increasing student competencies. When queried at the end of the course, 49% of the students in 1979 and 60% of the students in 1980 agreed that the modules allowed them to increase their competencies. However, when questioned shortly after completing the modules, 81-91% of the students agreed that the modules had increased their competencies. Refer the comments under the judgements and recommendations section.

The modules could be used to meet the needs of students in that they were made available to those students that desired more information in

Chemistry, Cell Physiology and Digestion or Absorption after the students had completed a pre-test on these topics. The standard for the pre-test was set at 80%. That is, all those students that did not achieve 80% or better on the pre-test had an opportunity to write the post-test and the highest grade of the two was recorded. However, after writing the post-test a number of students still had not achieve the 80% standard. Refer to the comments in the judgements and recommendations section.

Some of the standards that were established for the the modules were reached. That is, 80% or more of the students agreed that they had met the stated objectives for all of the modules in 1979 and in 1980. The only exception was Module 2: Chemistry Concepts, where in 1980, 78% agreed that they had met the stated objectives. However, in 1980 67%, 74% and 81% agreee that Module 2: Chemistry Concepts; Module 3: Cell Physiology; and Module 4: Digestion and Absorption, respectively, provided background or foundation for the remainder of the course when they were questioned at the end of the course. Refer to the comments that follow under judgements and recommendations section.

In addition, 80% of the students in 1979 and 1980 did not agreed that the use of modules in Foods and Nutrition 325/326 allowed them to increase their competencies when queried at the end of the course. In contrast, when the students were queried during the year after they had completed each module from 81-91% (a combined percentage for 1979 and 1980) of the students agreed that the modules had increased their competencies. Refer to the comments that follow under judgements and recommendations section.

Finally, the 80% standard for the post-test for each of the three modules was achieved by a substantially lower percentage of the students in 1980 as compared to 1979 for Module 2: Chemistry Concepts and Module 4: Digestion and Absorption. Refer to the comments that follow under judgements and recommendations section.

Judgements and Recommendations

Judgement: An analysis of the data, that was collected based on the standard that at least 80% or more of the students would agree that the modularized system was effective, efficient and appropriate in Foods and Nutrition 325/326, indicated that the standard was not achieved.

Recommendations:

1. If funds are available, that cross tabulations with the data be done to learn the students from the different faculties rate the modularized system in Foods and Nutrition 325/326. Furthermore these ratings could also be cross-tabulated with those modules the students completed. Those students that completed the modules would be the students that could most appropriately rate the modularized system.
2. The modularized system be continued to be explained to the students at the beginning of the course with emphasis on the student, professor and resource person roles..
3. The resource person(s) office hours be continued to be included in the course explanation at the beginning of the course. If funds are available, further data could also be solicited from the students inquiring about the number of times they tried to consult a resource person and were unsuccessful.
4. An 80% standard is a relatively high standard to achieve and perhaps the standards for the two variables that were included in the transactions and discussed above should be lowered.

Judgement: An analysis of the data, that was collected in relation to the standard that 80% of the students in Foods and Nutrition 325/326 would agree that the related learning materials, the modules, that accompanied the modularized system were meeting their learning needs, indicated that the standard was not achieved.

Recommendations:

1. If funds are available further analysis of the data be implemented. For example, the academic backgrounds of the student, the pre-test and post-test grade of the student could be cross-tabulated with the student's rating of the background or foundation provided by each of the modules for the remainder of the course and, also, the student's rating of each of the modules in allowing the student to increase competencies.

   The data could also be analyzed to learn how the students from the different faculties are rating the modules. These ratings could also be cross-tabulated with those modules the student completed. Those students that completed the modules would be the students that could most appropriately rate the modules.

2. An 80% standard is a relatively high standard to achieve and perhaps the standards for the two variables that were included in the outcomes and discussed above, should be lowered.

In conclusion, the modularized system and related learning materials, the three modules: Module 2: Chemistry Concepts, Module 3: Cell Physiology and Module 4: Digestion and Absorption have proven to have been successful in Foods and Nutrition 325/326 with some limitations. It is recommended that the modularized system and related learning modules be continued to be implemented in Foods and Nutrition 325/326 and that, based on continuing evaluation further development continue.

PROJECT

The summative design and results of the *Learning Systems Project*, overall, were reported in Chapter 6. In summary, an analysis of the data at this point in time, showed that the *Learning Systems Project*, overall, was successful. However, a future evaluation would be necessary to allow time to collect more substantive data for drawing firm conclusions.

UNINTENDED SIDE-EFFECTS

The project leaders and/or the evaluator identified some of the more obvious and noteworthy unintended side-effects of the *Learning Systems Project*. These are listed below and discussed.

1. *Development time demands.*

   The time spent in developing the systems and related materials was a very demanding variable. Faculty support was vital during this stage of the project.

2. *Delayed system benefits*

   The benefits purported by a particular system of teaching/learning are usually realized after the system has been implemented, evaluated, and revised. The time involved getting a system into good working order varies but experiences in this area suggested that the benefits purported will probably not be realized in the first few years of implementation. Therefore, some of the benefits of the modularized system of teaching/learning will probably be realized in the later stages of implementation in each of the courses included in the Innovative Project.

3. The computer programmer and course writer relationship.

It was very important to the computer programmers and the course writers that they maintained ongoing, continual communication with each other. This process resulted in a more successful product and a better understanding and appreciation of the roles that both people played in the development of the micro units and Plato systems.

4. The professor as a "change agent".

All the project leaders experienced, in varying degrees, the role of a "change agent'. They all found that the implementation of an innovative teaching/learning system into a traditional existing teaching/learning environment forced the professor in charge of the innovative system into being a "change agent". It was evident that the professor's acquisition of knowledge and the practicing of skills associated with a change agent's role reduced the amount of frustration experienced by students, and others that were connected with the changes that were a result of the implementation of the innovative teaching/learning system.

CHAPTER 8

SUMMARY

The purpose of this study was to evaluate the Learning Systems Project, an innovative project that was developed and implemented by the Faculty of Home Economics at the University of Alberta. The project was funded by the Innovative Projects Fund of the Learning Systems Branch of Alberta Advanced Education and Manpower. One of the stipulations of funding was that there would be an evaluation of the project.

CONTEXT

A review of the literature in areas that were related to the project produced insightful information for the evaluation. There was an enormous amount of information in the program evaluation area. This proliferation has confused rather than clarified the area and the result has been an evident lack of agreement concerning the content and methodology of evaluation studies. Therefore, there is a wide array of choices available to an evaluator.

The literature reviews in two other related areas evaluating post secondary instructional effectiveness and instructional systems produced variables that had been identified for research purposes in these two areas. In conclusion, the review of the literature in related areas identified numerous possibilities for consideration when selecting the content and methodology for an evaluation. It is within this context that the evaluation design of the Learning Systems Project was developed.

SETTING

The Learning Systems Project was operationalized in the Faculty of Home Economics through four courses. The innovative teaching/learning system that had been identified for the project was the modularized system and consequently, each course had some degree of modularization.

PURPOSE

The initial concern in the evaluation of the Learning Systems Project was to translate the criteria that had been previously developed by the project leaders for the evaluation of the project, and the demands and expectations of the funding agency into a evaluation design. Thus, the evaluation design that resulted, the Learning Systems Project Evaluation Design, accommodated the concerns of these two stakeholder groups. Furthermore, the evaluation design also had to consider human and financial constraints. The LSPE Design was operationalized in formative and summative evaluations of the four courses.

The formative evaluation focused primarily, although not exclusively, on the related materials that were developed to accompany the modularized system. The summative evaluation included a further assessment of the related materials along with an assessment of the delivery of these materials through the modularized teaching/learning system. Another purpose of the summative evaluation was to assess the Learning Systems Project overall, which included examining efforts to share information about the Learning Systems Project with sister institutions.

CONCLUSIONS

Data were collected in this study in order to respond to the evaluation questions. In this section, general conclusions will be offered to the summative evaluation questions. The formative evaluator questions were included in the summative questions. The general conclusions that are presented were based on the results of the analysis of the data collected during the evaluation of the Learning Systems Project.

Question 1: Are the innovative teaching/learning systems meeting the learning needs of students with varying academic performance and experiential backgrounds, and varying career aspirations?

An analysis of the data that were collected in relation to the innovative teaching/learning system, which was the modularized system, indicated that the delivery method received differing assessments in the different courses. In addition, there were also differences among the assessments of some of the groups within the courses. Furthermore although there were very limited opportunities for such assessment, the data that were collected did not provide evidence to indicate that the modularized system did not meet the learning needs of students. Generally, in conclusion, the innovative teaching/learning systems, which were the modularized systems implemented in the four courses, did meet the learning needs of students, with varying academic and experiential backgrounds, and varying career aspirations.

Question 2: Are the related materials meeting the learning needs of students with varying academic and experiential backgrounds, and varying career aspirations?

An analysis of the data that were collected in relation to the related materials, which were the modules, indicated that the modules were assessed differently in the different courses. In addition, there were also differences among the assessments of some of the groups within the courses. Furthermore, although there were very limited opportunities for such assessment, the data that were collected did not provide evidence to indicate that the modules did not meet the learning needs of students. Generally, in conclusion, the related materials, which were the modules that accompanied the innovative teaching/learning systems, did meet the learning needs of students, with varying academic and experiential backgrounds, and varying career aspirations.

Question 3: Has there been increased awareness and utilization of innovative teaching/learning systems and related materials throughout the Faculty of Home Economics?

In conclusion, an analysis of the data that were collected in relation to the awareness and utilization of innovative teaching/learning systems and related materials throughout the Faculty of Home Economics, indicated that there had been an increase in awareness and utilization of innovative teaching/learning systems and related materials throughout the Faculty of Home Economics.

Question 4: Have efforts been made to share the innovative teaching/learning systems and related materials with sister institutions?

In conclusion, an analysis of the data that were collected in relation to sharing the innovative teaching/learning systems and related materials with sister insitutions, indicated that efforts had been made.

Although the responses to the evaluation questions indicated that the Learning Systems Project had been generally successful in those areas, a number of revisions or changes could be considered. Details on the revisions and changes were discussed in the judgements and recommendations sections in Chapter 7.

MINI-META-EVALUATION

Meta-evaluation has become a very prominent concern in the field of evaluation. One of the results of this concern was the publishing of the book entitled Standards for Evaluation of Educational Programs, Projects and Materials in 1981. The joint committee and support groups that were involved with the development of the book included about two hundred evaluators. They identified four important attributes of an evaluation: utility, feasibility, priority and accuracy. Each one of the attributes contains a set of standards. The total number of standards is thirty. The book states that in many evaluations (especially low budget formative evaluations) systematic application and documentation of the standards will not be feasible; nevertheless, use of the form (for the standards) is recommended. Since there were no funds appropriated for the evaluation of the Learning Systems Project in the design state, this evaluation could be classified as one where systematic application and documentaton of the standards is not feasible. Furthermore, the book was published when the evaluation was complete. In addition, the purpose of this evaluation was to develop an evaluation design for the Learning Systems Project and to operationalize that design. However a Meta-evaluation of the Learning Systems Project would be a topic for further research.

In spite of the preceding discussion, a mini-meta-evaluation of the evaluation of the Learning Systems Project follows. The following comments include a discussion of those standards that the evaluator felt were most obviously lacking and not taken into account to an extent that was feasible.

The first standard that deserves comment is evaluator credibility, one of the utility standards. Although this evaluator would rate herself as trustworthy to perform the evaluation she was still learning about philosophical orientations and how they influence an evaluator. However, she feels she has become more competent because of this experience. A personal account is included as Appendix B.

The second standard that deserves comment is the standard of information scope and selection, another of the utility standards. The evaluator felt that selection and collection of information for the evaluation of the Learning Systems Project was limited.

The third standard that the evaluator felt was most obviously lacking was the standard of justified conclusions, which is one of the accuracy standards. During this analysis of the data for the summative evaluation, it became evident to the evaluator that the standards that had been developed for the evaluation of the Learning Systems Project were limited. They would have been more meaningful if they had included points of view from other sources in addition to the project leader and evaluator. For example, the students could have been consulted or possibly experts in Home Economics curriculum in other universities.

The three standards that were discussed above appeared to be those that were most obviously lacking in the evaluation of the Learning Systems Project. However, this is only a very brief mini-meta-evaluation since the purpose of the study was not to include a meta-evaluation.

IMPLICATIONS

A meta-evaluation study of the evaluation of the Learning Systems Project was an obvious area that the findings in this research identifed for further research. In addition, two other areas deserve comment. Future research could consider the processes used in implementation. This study did not identify the examination of the implementation processes that were evident in the application of the modularized system of teaching/learning in the Learning Systems Project, as one of the primary concerns. However, there is an obvious link between an innovation and the processes that are used for implementing it.

The other area that was suggested for further research by this study was the notion of change and all its attributes. The literature on change suggests many concepts that would be relevant to consider when studying innovations.

CONCLUDING STATEMENT

Contained within this study is a detailed account of the evaluation of the *Learning Systems Project*. Individual evaluators should be able to use this description to assist them in designing and implementing evaluation studies. Furthermore, the findings in this study related to modularized systems of teaching/learning should be of some value to educators and students in post-secondary institutions. The project leaders of the *Learning Systems Pojrect* and the personnel in the Department of Advanced Education and Manpower have already commented on the usefulness of the study. In their opinion, the study was very useful for a number of purposes.

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APPENDIX A

INSTRUMENTS

APPENDIX 1

CLOTHING AND TEXTILES 309

INFORMATION FORM

Please fill in this form before Monday, September 15, hand it in to the secretary in Printing Services 301 and ask to be checked off the class list.

Please answer by circling the appropriate number to the right of each response where there is a number provided, and/or by writing in your own response when requested or when no number is available.

Do not write
in this space

0 1
$\overline{1}$ $\overline{2}$

A. I.D. Number ______ $\overline{3}\ \overline{4}\ \overline{5}\ \overline{6}\ \overline{7}\ \overline{8}$

2. Faculty $\overline{9}$

Arts	1
Education	2
Home Economics	3
Phys. Ed. and Rec.	4
Science	5
Grad. Studies	6
Other (specify) ______________________	7

3. Major areas of study $\overline{10}$

Ed. Home Ec.	1
Clothing and Textiles	2
Family Studies	3
Foods and Nutrition	4
Other (specify) ______________________	5

4. Year of Program $\overline{11}$

First	1
Second	2
Third	3
Fourth	4
Fifth	5
Sixth	6

		Do not write in this space	
5. Please give your grade point average to one decimal point. (Please check with your Faculty office if you cannot remember.)			
First Year	__.__	12	13
Second Year	__.__	14	15
Third Year	__.__	16	17
Fourth Year	__.__	18	19
Fifth Year	__.__	20	21
Sixth Year	__.__	22	23

6. Have you taken or are you taking any of the following Chemistry courses? Please give the year of your program you took or are taking the Chemistry course and your final grade score if you have completed it.

Chemistry 200	No	1	24
	Yes	5	
	University of ______________		25(1=comment)
	Year of Program	__	26
	Final Grade	__	27
Chemistry 250	No	1	28
	Yes	5	
	University of ______________		29(1=comment)
	Year of Program	__	30
	Final Grade	__	31

7. Have you taken a course using learning modules before?

No	1	32
Yes	5	

Explain: ____ 33 1=comment

____

8. If yes, was it at the university?

No	1	34
Yes	5	

Explain: ____ 35 1=comment

____

Do not write
in this space

9. If yes, was it a satisfying experience?

No .... 1 $\overline{36}$
Yes 5

Explain: ______________________________ $\overline{37}$
1=comment
____

10. Have your been involved in using the computer for examination purposes?

No .... 1 $\overline{38}$
Yes 5

Explain: ______________________________ $\overline{39}$
1=comment
____

11. If yes, was it at the university?

No .... 1 $\overline{40}$
Yes 5

Explain: ______________________________ $\overline{41}$
1=comment
____

12. If yes, was it a satisfying experience?

No .... 1 $\overline{42}$
Yes 5

Explain: ______________________________ $\overline{43}$
1=comment
____

APPENDIX 2

CLOTHING AND TEXTILES 309

ATTITUDE SCALE

Please complete the scale, hand it to the secretary in Printing Services 301 and be checked off the class list before Monday, September 17.

The following is a scale to measure your feelings toward textile science. This information will NOT be used in determining your final grade score but rather to help determine the effectiveness of the course.

Do not write
in this space

$\frac{0}{1}$ $\frac{2}{2}$

A. I.D. Number ______ $\overline{3}\ \overline{4}\ \overline{5}\ \overline{6}\ \overline{7}\ \overline{8}$

B. Please circle the number that most closely reflects the extent to which you agree with each statement.

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	
1. Textile Science is very interesting to me.	1	2	3	4	5	$\overline{9}$
2. I don't like textile science, and it scares me to have to take it.	1	2	3	4	5	$\overline{10}$
3. I am always under a terrible strain in a textile science class.	1	2	3	4	5	$\overline{11}$
4. Textile science is fascinating and fun.	1	2	3	4	5	$\overline{12}$
5. Textile science makes me feel secure, and at the same time it is stimulating.	1	2	3	4	5	$\overline{13}$
6. Textile science makes me feel uncomfortable, restless, irritable and impatient.	1	2	3	4	5	$\overline{14}$

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Do not write in this space
7. In general, I have a good feeling toward textile science.	1	2	3	4	5	15
8. When I hear the word textile science, I have a feeling of dislike.	1	2	3	4	5	16
9. I approach textile science with a feeling of hesitation.	1	2	3	4	5	17
10. I really like textile science.	1	2	3	4	5	18
11. I have always enjoyed studying textile science in school.	1	2	3	4	5	19
12. It makes me nervous to even think about doing a textile science experiment.	1	2	3	4	5	20
13. I feel at ease in textile science and like it very much.	1	2	3	4	5	21
14. I have a definite positive reaction to textile science, its enjoyable.	1	2	3	4	5	22

C. On each scale below, please rate your feelings. THERE ARE NO CORRECT ANSWERS. Also, some of the scales make more sense than others. Please circle the number that most closely reflects your feelings.

15. Good	1	2	3	4	5	Bad	23
16. Timely	1	2	3	4	5	Untimely	24

							Do not write in this space
17. Painful	1	2	3	4	5	Pleasurable	25
18. Meaningless	1	2	3	4	5	Meaningful	26
19. Important	1	2	3	4	5	Unimportant	27
20. Regressive	1	2	3	4	5	Progressive	28
21. High	1	2	3	4	5	Low	29
22. Positive	1	2	3	4	5	Negative	30

APPENDIX 3A

COMPETENCY RATING SCALE

Please complete this scale, hand it in to the secretary in Printing Services 301 and be checked off the class list before Monday, September 10.

The following have been identified as competencies for this course. Please circle the number that indicates how you would rate yourself. High competency indicates great expertise and vast knowledge. Low competency indicates limited expertise and knowledge.

Do not write in this space
0 3
1 [illegible]

3 4 5 6 7 8

I.D. Number ______

B. Competencies

	High Competency 1	2	3	4	Low Competency 5	
1. The student will be able to function effectively with individualized materials being used in selected courses in the Home Economics Faculty.	1	2	3	4	5	9
2. The student will develop an understanding of the several aspects of serviceability and of the various properties which contribute to the serviceability of textile products.	1	2	3	4	5	10
3. The student will be able to outline the main provision of Canadian legislation and regulations pertaining to textile products, and describe how these affect the consumer's selection and use of such products.	1	2	3	4	5	11

Do not write in this space

B. Competencies (continued)

4. The student will have a knowledge of the origin and production of both natural and man-made fibers. The student will also have a basic understanding of the structure of various fiber types and of the relationships between structure and other fiber properties. 1 2 3 4 5 T2

5. The student will have a knowledge of the serviceability characteristics of the various fiber types and will be able to relate these characteristics to potential end uses and appropriate care procedures. 1 2 3 4 5 T3

6. The student will have a knowledge of various aspects of yarn structure and of the relationship between yarn structure and serviceability. The student will apply the knowledge to the selection of yarns (usually found in fabrics) most appropriate for selected end uses. 1 2 3 4 5 T4

7. The student will develop an understanding of the weaving process and a knowledge of the structure of common basic weave fabrics. 1 2 3 4 5 T5

Do not write in this space

B. Competencies (continued)

8. The student will have a knowledge of the structure of special weave fabrics and of the relationships between fabric weave and product serviceability. The student will apply this knowledge to the selection of woven fabrics most appropriate for selected end uses. 1 2 3 4 5 T6

9. The student will have a knowledge of knit fabric structures and of the relationships between fabric structure and serviceability. The student will apply this knowledge to the selection of the knit fabrics most appropriate for selected end uses. 1 2 3 4 5 T7

10. The student will have a knowledge of various formed fabric structures and of the relationships between fabric structure and serviceability. The student will apply this knowledge to the selection of formed fabrics most appropriate for selected end uses. 1 2 3 4 5 T8

11. The student will have a knowledge of the structure of braids, nets, laces and films and of the relationships between these fabric structures and serviceability. 1 2 3 4 5 T9

Do not write in this space

B. Competencies (continued)

$\overline{20}$

12. The student will have a knowledge of various methods of applying color and design to fabrics, and of the relationship between these methods and serviceability. The student will apply this knowledge in the selection of appropriate dyeing or applied design methods for selected end uses. 1 2 3 4 5

$\overline{21}$

13. The student will have a knowledge of the function of finishes applied to textile products and how these finishes contribute to serviceability. The student will apply this knowledge to the selection of fabrics with finishes appropriate to selected end uses. 1 2 3 4 5

$\overline{22}$

14. The student will synthesize and apply knowledge of the serviceability characteristics of all the components of a textile product (fiber, yarn, fabric structure, color and design, finish) to select appropriate textile alternatives and to prescribe appropriate care procedures for textile products. 1 2 3 4 5

APPENDIX 4

EVALUATION FORM

MODULE NUMBER _____

Please hand in this evaluation form after you have completed the module to the secretary in 301 Printing Services and ask to be checked off the class lits. This information will NOT be used in determining your final grade score but rather to help determine the effectiveness of the module. Thank you for yourassistance.

Please read each item and circle thenumber that is most appropriate for your response. Please make any additional comments in the spaces provided.

I.D. ____________________

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Not Applicable	Do not write in this space $\frac{5}{1}$ $\frac{0}{2}$
Objectives							
1. The objectives were clearly stated.	1	2	3	4	5	6	$\overline{9}$
2. The objectives were appropriate for the content.	1	2	3	4	5	6	$\overline{10}$
3. I met the stated objectives for this module.	1	2	3	4	5	6	$\overline{11}$
Learning Activities							
4. The learning activities that I completed clarified the concepts presented in the module.	1	2	3	4	5	6	$\overline{12}$
5. The instructions for the learning activities were adequate.	1	2	3	4	5	6	$\overline{13}$

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Not Applicable	Do not write in this space
6. There was sufficient variety in the type of learning activities.	1	2	3	4	5	6	14
7. The type of learning activities allowed me to meet the stated objectives of this module.	1	2	3	4	5	6	15
Audio and/or Visual Materials (including slide/tape presentations, films, displays, charts, etc.)							
8. The materials were smoothly presented and integrated within the sequence of the module.	1	2	3	4	5	6	16
9. The materials were easy to obtain.	1	2	3	4	5	6	17
10. Instructions were clear and easy to follow.	1	2	3	4	5	6	18
11. The materials were clearly visible and/or audible.	1	2	3	4	5	6	19
12. The materials contributed to my understanding of the content.	1	2	3	4	5	6	20
General							
13. I found this module stimulating.	1	2	3	4	5	6	21
14. I found this module interesting.	1	2	3	4	5	6	22

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Not Applicable	Do not write in this space
15. I found this module challenging.	1	2	3	4	5	6	23
16. I found this module organized.	1	2	3	4	5	6	24
17. I found this module too long.	1	2	3	4	5	6	25
18. I found this module helpful in increasing my competencies.	1	2	3	4	5	6	26
Comments:							27 1= comment

APPENDIX 5

CLOTHING AND TEXTILES 309

PROFESSOR QUESTIONNAIRE

Pleae hand in this questionnaire to Maryanne Doherty by MONDAY, DECEMBER 3. Thank you for your time and effort in completing it.

Please circle the most appropriate number to indicate your response. Please make any additional comments in the spaces provided.

Do not write in this space

$\frac{0}{1}$ $\frac{8}{2}$

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	
1. The use of modules in this course was an effective teaching/learning method.	1	2	3	4	5	3
2. The use of modules in this course was an efficient teaching/learning method.	1	2	3	4	5	4
3. The use of modules in this course was an appropriate teaching/learning method.	1	2	3	4	5	5
4. The use of CML in this course was effective.	1	2	3	4	5	6
5. The use of CML in this course was efficient.	1	2	3	4	5	7
6. The use of CML in this course was appropriate.	1	2	3	4	5	8

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Do not write in this space
7. The interaction with the resource person was satisfactory.	1	2	3	4	5	9
8. The interaction with the students was satisfactory.	1	2	3	4	5	10

9. How would you rate the amount of time you used for student interaction in the module - CML combination method of teaching/learning as compared to the previous lecture/laboratory method of teaching/learning?

11

CML/module combination less than lecture/laboratory 1
CML/module combination about same as lecture/laboratory 2
CML/module combination more than lecture/laboratory 3

10. How would you rate the use of time for student interaction in the module - CML combination method of teaching/learning as compared to the previous lecture/laboratory method of teaching/learning?

12

CML/module combination less effective use of time than lecture/laboratory 1
CML/module combination about as effective as use of time as lecture/laboratory 2
CML/module combination more effective use of time than lecture/laboratory 3

11. Were each of the modules valuable for the students? Circle the appropriate number for your response and comment in the space provided.

a) Module 1: The Concept of Serviceability

15

Yes 1
Somewhat 2
No 3

Comments: ____

____

16
1=Comment

Do not write
in this space

—

b) Module 2: Textile Legislation

Yes .... 1 $\overline{17}$
Somewhat 2
No 3

Comments: ______________________________ $\overline{18}$
1=Comment
____

c) Module 3: Overview of Fiber Type

Yes .... 1 $\overline{19}$
Somewhat 2
No 3

Comments: ______________________________ $\overline{20}$
1=Comment
____

d) Module 4: Serviceability and Fiber Types

Yes .... 1 $\overline{21}$
Somewhat 2
No 3

Comments: ______________________________ $\overline{22}$
1=Comment
____

e) Module 5: Yarns

Yes .... 1 $\overline{23}$
Somewhat 2
No 3

Comments: ______________________________ $\overline{24}$
1=Comment
____

f) Module 6: Weaving and Basic Weaves

Yes .... 1 $\overline{25}$
Somewhat 2
No 3

Comments: ______________________________ $\overline{26}$
1=Comment
____

Do not write
in this space

—

g) Module 7: Special Fabrics

Yes 1
Somewhat 2
No 3

27

Comments: ______________________________

____

28
1=Comment

h) Module 8: Knit Fabrics

Yes 1
Somewhat 2
No 3

29

Comments: ______________________________

____

30
1=Comment

i) Module 9: Formed Fabrics

Yes 1
Somewhat 2
No 3

31

Comments: ______________________________

____

32
1=Comment

j) Module 10: Miscellaneous Fabric Constructions

Yes 1
Somewhat 2
No 3

33

Comments: ______________________________

____

34
1=Comment

k) Module 11: Coloration and Design

Yes 1
Somewhat 2
No 3

35

Comments: ______________________________

____

36
1=Comment

Do not write
in this space

l) Module 12: Finishes

Yes .... 1 — 37
Somewhat 2
No 3

Comments: ______________________________ — 38
1=Comment

____

m) Module 13: Review

Yes .... 1 — 39
Somewhat 2
No 3

Comments: ______________________________ — 40
1=Comment

____

1
80

APPENDIX 6

CLOTHING AND TEXTILES 309

STUDENT QUESTIONNAIRE

Please hand in this questionnaire to the secretary in Printing Services 301 by Monday, December 3 and ask to be checked off the class list. This information will NOT be used in determining your final grade score but rather to help improve the effectiveness of the course. Thank you for your assistance.

Please read each item and circle the number that is most appropriate for your response. Please make any comments in the spaces provided.

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Do not write in this space $\frac{0}{1}$ $\frac{9}{2}$
1. The use of modules in this course allowed me to increase my competencies according to my own needs.	1	2	3	4	5	$\overline{3}$
2. The use of modules in this course was an effective teaching/learning method.	1	2	3	4	5	$\overline{4}$
3. The use of modules in this course was an efficient teaching/learning method.	1	2	3	4	5	$\overline{5}$
4. The use of modules in this course was an appropriate teaching/learning method.	1	2	3	4	5	$\overline{6}$

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Do not write in this space
5. The computer managed learning system allowed efficient access to self-testing.	1	2	3	4	5	7
6. The computer managed learning system allowed me to set my own pace for learning.	1	2	3	4	5	8
7. The computer managed learning system allowed me to keep track of my own progress.	1	2	3	4	5	9
8. The use of computer managed learning system was appropriate for this course.	1	2	3	4	5	10
9. The computer managed learning system was an enjoyable experience.	1	2	3	4	5	11
10. The interaction in this course between myself and other students was satisfactory.	1	2	3	4	5	12
11. The interaction in this course between myself and the resource person was satisfactory.	1	2	3	4	5	13
12. The interaction in this course between myself and the professor was satisfactory.	1	2	3	4	5	14

Do not write
in this space

—

9. Were each of the modules valuable?
Circle the appropriate number for your response and comment in the space provided.

a) Module 1: The Concept of Serviceability 15

Yes 1
Somewhat 2
No 3

Comments: ____________________ 16
1=Comment

____

b) Module 2: Textile Legislation

Yes 1 17
Somewhat 2
No 3

Comments: ____________________ 18
1=Comment

____

c) Module 3: Overview of Fiber Type

Yes 1 19
Somewhat 2
No 3

Comments: ____________________ 20
1=Comment

____

d) Module 4: Serviceability and Fiber Types

Yes 1 21
Somewhat 2
No 3

Comments: ____________________ 22
1=Comment

____

Do not write
in this space

e) Module 5: Yarns

Yes .... 1 $\overline{23}$
Somewhat 2
No 3

Comments: ______________________________ $\overline{24}$
1=Comment
____

f) Module 6: Weaving and Basic Weaves

Yes .... 1 $\overline{25}$
Somewhat 2
No 3

Comments: ______________________________ $\overline{26}$
1=Comment
____

g) Module 7: Special Fabrics

Yes .... 1 $\overline{27}$
Somewhat 2
No 3

Comments: ______________________________ $\overline{28}$
1=Comment
____

h) Module 8: Knit Fabrics

Yes .... 1 $\overline{29}$
Somewhat 2
No 3

Comments: ______________________________ $\overline{30}$
1=Comment
____

i) Module 9: Formed Fabrics

Yes .... 1 $\overline{31}$
Somewhat 2
No 3

Comments: ______________________________ $\overline{32}$
1=Comment
____

		Do not write in this space
j) Module 10:	Miscellaneous Fabric Constructions	—
	Yes .... 1 Somewhat .... 2 No 3	33
Comments:	______________________________ ______________________________	34 1=Comment
k) Module 11:	Coloration and Design	
	Yes .... 1 Somewhat .... 2 No 3	35
Comments:	______________________________ ______________________________	36 1=Comment
l) Module 12:	Finishes	
	Yes .... 1 Somewhat .... 2 No 3	37
Comments:	______________________________ ______________________________	38 1=Comment
m) Module 13:	Review	
	Yes .... 1 Somewhat .... 2 No 3	39
Comments:	______________________________ ______________________________	40 1=Comment
n) Module 14:	Review	
	Yes .... 1 Somewhat .... 2 No 3	37
Comments:	______________________________ ______________________________	38 1=Comment

APPENDIX 7

CLOTHING AND TEXTILES 309

RESOURCE PERSON QUESTIONNAIRE

Please hand in this questionnaire to Maryanne Doherty by MONDAY, DECEMBER 8. Thank you for your time and effort in completing it.

Please circle the most appropriate number to indicate your response. Please make any additional comments in the spaces provided.

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Do not write in this space $\frac{1}{1}$ $\frac{0}{2}$
1. The use of modules in this course was an effective teaching/learning method.	1	2	3	4	5	$\overline{3}$
2. The use of modules in this course was an efficient teaching/learning method.	1	2	3	4	5	$\overline{4}$
3. The use of modules in this course was an appropriate teaching/learning method.	1	2	3	4	5	$\overline{5}$
4. The use of CML in this course was effective.	1	2	3	4	5	$\overline{6}$
5. The use of CML in this course was efficient.	1	2	3	4	5	$\overline{7}$
6. The use of CML in this course was appropriate.	1	2	3	4	5	$\overline{8}$

	Strongly Agree	Agree	Uncer-tain	Dis-agree	Strongly Dis-agree	Do not write in this space
7. The interaction with the professor was satisfactory.	1	2	3	4	5	$\overline{9}$
8. The interaction with the students was satisfactory.	1	2	3	4	5	$\overline{10}$

9. Were each of the modules valuable? Circle the appropriate number for your response and comment in the space provided.

a) Module 1: The Concept of Serviceability $\overline{15}$

Yes 1
Somewhat 2
No 3

Comments: ________________________________ $\overline{16}$ 1=Comment

____

b) Module 2: Textile Legislation

Yes .... 1 $\overline{17}$
Somewhat 2
No 3

Comments: ________________________________ $\overline{18}$ 1=Comment

____

c) Module 3: Overview of Fiber Type

Yes .... 1 $\overline{19}$
Somewhat 2
No 3

Comments: ________________________________ $\overline{20}$ 1=Comment

____

Do not write
in this space

d) Module 4: Serviceability and Fiber Types

Yes .... 1 — 21
Somewhat 2
No 3

Comments: ____________________ — 22 1=Comment

____

e) Module 5: Yarns

Yes .... 1 — 23
Somewhat 2
No 3

Comments: ____________________ — 24 1=Comment

____

f) Module 6: Weaving and Basic Weaves

Yes .... 1 — 25
Somewhat 2
No 3

Comments: ____________________ — 26 1=Comment

____

g) Module 7: Special Fabrics

Yes .... 1 — 27
Somewhat 2
No 3

Comments: ____________________ — 28 1=Comment

____

h) Module 8: Knit Fabrics

Yes .... 1 — 29
Somewhat 2
No 3

Comments: ____________________ — 30 1=Comment

____

Do not write
in this space

i) Module 9: Formed Fabrics

Yes 1
Somewhat 2
No 3

31

Comments:

32
1=Comment

j) Module 10: Miscellaneous Fabric Constructions

Yes 1
Somewhat 2
No 3

33

Comments:

34
1=Comment

k) Module 11: Coloration and Design

Yes 1
Somewhat 2
No 3

35

Comments:

36
1=Comment

l) Module 12: Finishes

Yes 1
Somewhat 2
No 3

37

Comments:

38
1=Comment

m) Module 13: Review

Yes 1
Somewhat 2
No 3

39

Comments:

40
1=Comment

1
80

APPENDIX 8

FAMILY STUDIES 440

INFORMATION FORM

Please answer by circling the appropriate number to the right of each response, when there is a number available, and/or by writing in your own response when requested or when no number is available.

Do not write
in this space
1 3
1 2

1. I.D. Number ______ 3 4 5 6 7 8

2. Faculty 9
    Agriculture and Forestry 1
    Arts 2
    Bus. Admin. and Comm. 3
    Education 4
    Home Economics 5
    Nursing 6
    Phys. Ed. and Rec. 7
    Science 8
    Grad. Studies 9

3. Year of Program 10
    First 1
    Second 2
    Third 3
    Fourth 4
    Fifth 5
    Sixth 6

4. Major Area of Study ________________________________

5. Grade point average to one decimal.
    First Year .... __.__ 11 12
    Second Year .... __.__ 13 14
    Third Year .... __.__ 15 16
    Fourth Year .... __.__ 17 18
    Fifth Year .... __.__ 19 20
    Sixth Year .... __.__ 21 22

			Do not write in this space
6. Economics background. Have you taken or are you taking any of the following Economics courses?			
Economics 201	No	1	23
	Yes	5	
	Year of Program	__	24
	University of ____________		26
	Final Grade	__	27
Economics 202	No	1	28
	Yes	5	
	Year of Program	__	29
	University of ____________		30
	Final Grade	__	31
Economics 306	No	1	32
	Yes	5	
	Year of Program	__	33
	University of ____________		34
	Final Grade	__	35
Economics 307	No	1	36
	Yes	5	
	Year of Program	__	37
	University of ____________		38
	Final Grade	__	39
Others	Name ____________________		40
	Year of Program	__	41
	University of ____________		42
	Final Grade	__	43
7. Have you taken a course using learning modules before at the university?			
No		1	44
Yes		5	
Explain: ____________________________________			45 1=comment
____________________________________			

Do not write
in this space

8. If yes, was it a satisfying experience?

No 1
Yes 5

$\overline{46}$

Explain: ________________________________

____

$\overline{47}$
1=comment

$\frac{1}{80}$

APPENDIX 9

FAMILY STUDIES 440

ATTITUDE SCALE

The following is an instrument to measure your feelings toward economics. This information will not be used in determining your final grade score but rather to halp determine the effectiveness of the course.

Do not write
in this space

5 5
1 2

A. I.D. Number _______ 3 4 5 6 7 8

B. Please circle the number that most closely reflects the extent to which you agree with each statement.

	Strongly Agree	Agree	Uncer-tain	Dis-agree	Strongly Dis-agree	
1. Economics is very interesting to me.	1	2	3	4	5	9
2. I don't like economics, and it scares me to have to take it.	1	2	3	4	5	10
3. I am always under a terrible strain in an economics class.	1	2	3	4	5	11
4. Economics is fascinating and fun.	1	2	3	4	5	12
5. Economics makes me feel secure, and at the same time it is stimulating.	1	2	3	4	5	13
6. Economics makes me feel uncomfortable, restless, irritable and impatient.	1	2	3	4	5	14
7. In general, I have a good feeling toward economics.	1	2	3	4	5	15

	Strongly Agree	Agree	Uncer- tain	Dis- agree	Strongly Dis- agree	Do not write in this space
8. When I hear the word economics, I have a feeling of dislike.	1	2	3	4	5	$\overline{16}$
9. I approach economics with a feeling of hesitation.	1	2	3	4	5	$\overline{17}$
10. I really like economics.	1	2	3	4	5	$\overline{18}$
11. I have always enjoyed studying economics in school.	1	2	3	4	5	$\overline{19}$
12. It makes me nervous to even think about doing an economics assignment.	1	2	3	4	5	$\overline{20}$
13. I feel at ease in economics and like it very much.	1	2	3	4	5	$\overline{21}$
14. I have a definite positive reaction to economics, its enjoyable.	1	2	3	4	5	$\overline{22}$

C. On each scale below, please rate your feelings toward economics. THERE ARE NO CORRECT ANSWERS. Also, some of the scales make more sense than others. Please circle the number that most closely reflects your feelings.

15. Good	1	2	3	4	5	Bad	$\overline{23}$
16. Timely	1	2	3	4	5	Untimely	$\overline{24}$
17. Painful	1	2	3	4	5	Pleasurable	$\overline{25}$
18. Meaningless	1	2	3	4	5	Meaningful	$\overline{26}$

							Do not write in this space
19. Important	1	2	3	4	5	Unimportant	$\overline{27}$
20. Regressive	1	2	3	4	5	Progressive	$\overline{28}$
21. High	1	2	3	4	5	Low	$\overline{29}$
22. Positive	1	2	3	4	5	Negative	$\overline{30}$

APPENDIX 10

FAMILY STUDIES 444

INFORMATION FORM

Please complete this form, and hand it in.

Please answer by circling the appropriate number to the right of each response where there is a number provided, and/or by writing in your own response when requested or when no number is available.

Do not write
in this space

$\frac{3}{1}$ $\frac{6}{2}$

2. I.D. Number ______ 3 4 5 6 7 8

3. Please give your grade point average to one decimal point. (Please check with your Faculty office if you cannot remember.)
    First year .... __.__ 9 10
    Second year .... __.__ 11 12
    Third year .... __.__ 13 14
    Fourth year .... __.__ 15 16

4. Have you taken Family Studies 359: Presentation and Communications?
    No 1 17
    Yes 2 18
    Year of Program .... ___ 19
    Final Grade .... ___ 20

5. Have you taken any Educational Psychology courses?
    No 1 21
    Yes 2

    Please specify course, name, number and year that you took or are taking the course(s) and final grade(s).
    Name ____ 22
    Year 19__ __ 23 24
    Final Grade ___ 25

Do not write
in this space

6. Have you had any previous experience in program planning:

No .... 1 $\overline{26}$
Yes 2

Explain ________________________________ $\overline{27}$
1=comment

____

7. Have you had any previous experience in counseling?

No .... 1 $\overline{28}$
Yes 2

Explain ________________________________ $\overline{29}$
1=comment

____

8. Have you taken a course using learning modules before?

No .... 1 $\overline{30}$
Yes 2

If yes, give course title, ________________________ $\overline{31}$
1=comment

____

9. If yes, was it at the university level?

No .... 1 $\overline{32}$
Yes 2

Explain ________________________________

____

10. If yes, were you satisfied with the modular method of teaching/learning?

No .... 1 $\overline{33}$
Yes 2

Explain ________________________________ $\overline{34}$
1=comment

____

APPENDIX 11

FAMILY STUDIES 444

MODULE

EVALUATION FEEDBACK

Please hand in this evaluation form after you have completed the module. This information will NOT be used in determining your final grade score but rather to help determine the effectiveness of the module. Thank you for yourassistance.

Please read each item and circle thenumber that is most appropriate for your response. Please make any additional comments in the spaces provided.

I.D. ______________________

Do not write in this space

0
$\overline{1}$ $\overline{2}$

	Most	Some	Very Few	None	
Completion					
1. Regarding the basic learning activities in this module, I completed	1	2	3	4	$\overline{3}$
2. Regarding the help learning activities in this module, I completed	1	2	3	4	$\overline{4}$

	Strongly Agree	Agree	Uncertain	Disagree	Stron- Disagree	Not Applicable	
Objectives							
3. The objectives were clearly stated.	1	2	3	4	5	6	$\overline{5}$
4. The objectives were appropriate for the content.	1	2	3	4	5	6	$\overline{6}$

6

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Not Applicable	Do not write in this space
5. I met the stated objectives for this module.	1	2	3	4	5	6	7
Learning Activities							
6. The learning activities that I completed clarified the concepts presented in the module.	1	2	3	4	5	6	8
7. The instructions for the learning activities were adequate.	1	2	3	4	5	6	9
8. There was sufficient variety in the type of learning activities.	1	2	3	4	5	6	10
9. The type of learning activities allowed me to meet the stated objectives of this module.	1	2	3	4	5	6	11
10. The number of learning activities allowed me to meet the stated objectives of this module.	1	2	3	4	5	6	12
Readings							
11. The combination of basic textbook and enrichment or help readings was helpful.	1	2	3	4	5	6	13

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Not Applicable	Do not write in this space
12. The basic readings contributed to my understanding of the content in the module.	1	2	3	4	5	6	$\overline{14}$
13. The basis readings were related to the stated objectives of this module.	1	2	3	4	5	6	$\overline{15}$
14. The basic readings were at an adequate level given my comprehensive skills.	1	2	3	4	5	6	$\overline{16}$
15. The help readings clarified concepts that were unclear to me.	1	2	3	4	5	6	$\overline{17}$
16. The enrichment readings were at a more advanced level than the basic or help readings.	1	2	3	4	5	6	$\overline{18}$
General							
17. I found this module stimulating.	1	2	3	4	5	6	$\overline{19}$
18. I found this module interesting.	1	2	3	4	5	6	$\overline{20}$
19. I found this module challenging.	1	2	3	4	5	6	$\overline{21}$
20. I found this module organized.	1	2	3	4	5	6	$\overline{22}$
21. I found this module too long.	1	2	3	4	5	6	$\overline{23}$

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Not Applicable	in this space
22. I found this module helpful in increasing my competencies.	1	2	3	4	5	6	24
Comments:							25 1= comment
							1 80

APPENDIX 12

FAMILY STUDIES 444

RESOURCE PERSON QUESTIONNAIRE

Pleae hand in this questionnaire to Maryanne Doherty by MONDAY, DECEMBER 17. Thank you for your time and effort in completing it.

Please circle the most appropriate number to indicate your response. Please make any additional comments in the spaces provided.

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Do not write in this space 2 0 1 2
1. The use of modules in this course was an effective teaching/learning method.	1	2	3	4	5	3
2. The use of modules in this course was an efficient teaching/learning method.	1	2	3	4	5	4
3. The use of modules in this course was an appropriate teaching/learning method.	1	2	3	4	5	5
4. The interaction with other resource person was satisfactory.	1	2	3	4	5	6
5. The interaction with the students was satisfactory.	1	2	3	4	5	7

Do not write
in this space

6. How would you rate the amount of time you used for student interaction in the module/laboratory combination method of teaching/learning as compared to the previous lecture/laboratory method of teaching/learning?

Module/laboratory combination less than lecture/laboratory	1	$\overline{8}$
Module/laboratory combination about same as lecture/laboratory	2	
Module/laboratory combination more than lecture/laboratory	3	

7. How would you rate the use of time for student interaction in the module/laboratory combination method of teaching/learning as compared to the previous lecture/laboratory method of teaching/learning?

Module/laboratory combination less effective use of time than lecture/laboratory	1	$\overline{9}$
Module/laboratory combination about as effective as use of time as lecture/laboratory	2	
Module/laboratory combination more effective use of time than lecture/laboratory	3	

8. Were each of the modules valuable for the students? Circle the appropriate number for your response and comment in the space provided.

a) Module 1N1: $\overline{10}$

Yes	1	
Somewhat	2	
No	3	

Comments: ______________________________ $\overline{11}$
1=Comment

____

b) Module 1N2:

Yes	1	$\overline{12}$
Somewhat	2	
No	3	

Comments: ______________________________ $\overline{13}$
1=Comment

____

Do not write
in this space

c) Module 1N3:

Yes .... 1 $\overline{14}$
Somewhat 2
No 3

Comments: ______________________________ $\overline{15}$
1=Comment
____

d) Module 1N4:

Yes .... 1 $\overline{16}$
Somewhat 2
No 3

Comments: ______________________________ $\overline{17}$
1=Comment
____

e) Module 1N5:

Yes .... 1 $\overline{18}$
Somewhat 2
No 3

Comments: ______________________________ $\overline{19}$
1=Comment
____

f) Module 1N6:

Yes .... 1 $\overline{20}$
Somewhat 2
No 3

Comments: ______________________________ $\overline{21}$
1=Comment
____

g) Module 1N7:

Yes .... 1 $\overline{22}$
Somewhat 2
No 3

Comments: ______________________________ $\overline{23}$
1=Comment
____

Do not write
in this space

h) Module 1N8:			
	Yes	1	$\overline{24}$
	Somewhat	2	
	No	3	
Comments:	____________________		$\overline{25}$ 1=Comment
	____________________		
i) Module 1N9:			
	Yes	1	$\overline{26}$
	Somewhat	2	
	No	3	
Comments:	____________________		$\overline{27}$ 1=Comment
	____________________		
j) Module 1N10:			
	Yes	1	$\overline{28}$
	Somewhat	2	
	No	3	
Comments:	____________________		$\overline{29}$ 1=Comment
	____________________		
k) Module 1N11:			
	Yes	1	$\overline{30}$
	Somewhat	2	
	No	3	
Comments:	____________________		$\overline{31}$ 1=Comment
	____________________		
l) Module PP1:			
	Yes	1	$\overline{32}$
	Somewhat	2	
	No	3	
Comments:	____________________		$\overline{33}$ 1=Comment
	____________________		

Do not write
in this space

m) Module PP2:

Yes 1 34
Somewhat 2
No 3

35
1=comment

n) Module PP3:

Yes 1 36
Somewhat 2
No 3

37
1=comment

o) Module PP4:

Yes 1 38
Somewhat 2
No 3

39
1=comment

p) Module PP5:

Yes 1 40
Somewhat 2
No 3

41
1=comment

q) Module PP6:

Yes 1 42
Somewhat 2
No 3

43
1=comment

r) Module PP7:

Yes 1 44
Somewhat 2
No 3

Comments: ______________________________ 45
1=Comment

____

Do not write
in this space

k) H. Ec. 1:

Yes	1	$\overline{46}$
Somewhat	2	
No	3	

Comments: ________________________________ $\overline{47}$
1=Comment

____

APPENDIX 13

FAMILY STUDIES 444

PROFESSOR QUESTIONNAIRE

Pleae hand in this questionnaire to Maryanne Doherty by MONDAY, DECEMBER 3. Thank you for your time and effort in completing it.

Please circle the most appropriate number to indicate your response. Please make any additional comments in the spaces provided.

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Do not write in this space $\frac{9}{1}$ $\frac{8}{2}$
1. The use of modules in this course was an effective teaching/learning method.	1	2	3	4	5	$\overline{3}$
2. The use of modules in this course was an efficient teaching/learning method.	1	2	3	4	5	$\overline{4}$
3. The use of modules in this course was an appropriate teaching/learning method.	1	2	3	4	5	$\overline{5}$
4. The interaction with the resource person was satisfactory.	1	2	3	4	5	$\overline{6}$
5. The interaction with the students was satisfactory.	1	2	3	4	5	$\overline{7}$

Do not write
in this space

6. How would you rate the amount of time you used for student interaction in the module/laboratory combination method of teaching/learning as compared to the previous lecture/laboratory method of teaching/learning?

Module/laboratory combination less than lecture/laboratory .... 1 $\overline{8}$
Module/laboratory combination about same as lecture/laboratory 2
Module/laboratory combination more than lecture/laboratory 3

7. How would you rate the use of time for student interaction in the module/laboratory combination method of teaching/learning as compared to the previous lecture/laboratory method of teaching/learning?

Module/laboratory combination less effective use of time than lecture/laboratory .... 1 $\overline{9}$
Module/laboratory combination about as effective as use of time as lecture/laboratory 2
Module/laboratory combination more effective use of time than lecture/laboratory 3

9. Were each of the modules valuable for the students? Circle the appropriate number for your response and comment in the space provided.

a) Module 1N1: $\overline{10}$

Yes 1
Somewhat 2
No 3

Comments: ______________________________ $\overline{11}$ 1=Comment

____

b) Module 1N2:

Yes .... 1 $\overline{12}$
Somewhat 2
No 3

Comments: ______________________________ $\overline{13}$ 1=Comment

____

Do not write
in this space

c) Module 1N3:

Yes .... 1 $\overline{14}$
Somewhat 2
No 3

Comments: ______________________________ $\overline{15}$
1=Comment
____

d) Module 1N4:

Yes .... 1 $\overline{16}$
Somewhat 2
No 3

Comments: ______________________________ $\overline{17}$
1=Comment
____

e) Module 1N5:

Yes .... 1 $\overline{18}$
Somewhat 2
No 3

Comments: ______________________________ $\overline{19}$
1=Comment
____

f) Module 1N6:

Yes .... 1 $\overline{20}$
Somewhat 2
No 3

Comments: ______________________________ $\overline{21}$
1=Comment
____

g) Module 1N7:

Yes .... 1 $\overline{22}$
Somewhat 2
No 3

Comments: ______________________________ $\overline{23}$
1=Comment
____

Do not write
in this space

h) Module 1N8:

Yes 1 24
Somewhat 2
No 3

Comments: ______________________________ 25
1=Comment
____

i) Module 1N9:

Yes 1 26
Somewhat 2
No 3

Comments: ______________________________ 27
1=Comment
____

j) Module 1N10:

Yes 1 28
Somewhat 2
No 3

Comments: ______________________________ 29
1=Comment
____

k) Module 1N11:

Yes 1 30
Somewhat 2
No 3

Comments: ______________________________ 31
1=Comment
____

l) Module PP1:

Yes 1 32
Somewhat 2
No 3

Comments: ______________________________ 33
1=Comment
____

Do not write
in this space

m) Module PP2:

Yes .... 1 $\overline{34}$
Somewhat 2
No 3

$\overline{35}$
1=comment

n) Module PP3:

Yes .... 1 $\overline{36}$
Somewhat 2
No 3

$\overline{37}$
1=comment

o) Module PP4:

Yes .... 1 $\overline{38}$
Somewhat 2
No 3

$\overline{39}$
1=comment

p) Module PP5:

Yes .... 1 $\overline{40}$
Somewhat 2
No 3

$\overline{41}$
1=comment

q) Module PP6:

Yes .... 1 $\overline{42}$
Somewhat 2
No 3

$\overline{43}$
1=comment

r) Module PP7:

Yes .... 1 $\overline{44}$
Somewhat 2
No 3

Comments: ______________________________ $\overline{45}$
1=Comment
____

Do not write
in this space

k) H. Ec. 1:

Yes .... 1 $\overline{46}$
Somewhat 2
No 3

Comments: ______________________________ $\overline{47}$
1=Comment

____

APPENDIX 14

FAMILY STUDIES 444

STUDENT QUESTIONNAIRE

The information you provide in this questionnaire will NOT be used in determining your final grade score but rather to help improve the effectiveness of the course. Thank you for your assistance.

PART A: Please read each item and circle the number that most appropriately corresponds to your response.

Do not write in this space

$\frac{2}{1}$ $\frac{7}{2}$

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	
1. The use of modules in this course allowed me to increase my competencies according to my own needs.	1	2	3	4	5	$\overline{3}$
2. The use of modules in this course was an effective teaching/learning method.	1	2	3	4	5	$\overline{4}$
3. The use of modules in this course was an efficient teaching/learning method.	1	2	3	4	5	$\overline{5}$
4. The use of modules in this course was an appropriate teacing/learning method.	1	2	3	4	5	$\overline{6}$
5. The modules in this course provided experiences for students at different levels of understanding.	1	2	3	4	5	$\overline{7}$

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Do not write in this space
6. The interaction in this course between myself and other students was safistactory.	1	2	3	4	5	8
7. The interaction in this course between myself and the laboratory person was satisfactory.	1	2	3	4	5	9
8. The interaction in this course between myself and the professor was satisfactory.	1	2	3	4	5	10

PART B: Please read each item and circle the number that most appropriately corresponds to your response.

1. If you had the opportunity to change some aspect of the modules, would you change

	Yes	No	
length	1	2	11
topics chosen	1	2	12
number of group activities	1	2	13
other(s) (please specify			14

____

____

1=comment

2. What aspect of the format of the modules would you change?

	Yes	No	
introduction	1	2	15
goals	1	2	16
sections	1	2	17
resources	1	2	18
exercises	1	2	19
self-assessment tests	1	2	20
self-assessment answers	1	2	21

Do not write
in this space

How would you change them? 22

1=comment

____

____

____

3. Do you think the following areas, content-wise, are suited to modularized instruction?

program planning	1	2	23
interviewing	1	2	24
professionalism	1	2	25

Comments: ______________________________ 26

____

1=comment

4. If you had sufficient time would you go back and work further on the following modules?

program planning	1	2	27
interviewing	1	2	28
professionalism	1	2	29

PART C: Please read each item and circle the number that most appropriately corresponds to your response.

1. Which of the modules did you complete?

		Yes	Somewhat	Not At All	
PP1	Community Family Life Education	1	2	3	30
PP2	Getting Acquainted With the Adult Learner	1	2	3	31
PP3	The Program Planning Process .	1	2	3	32
PP4	Assessing Community Characteristics	1	2	3	33
PP5	Writing Program Objectives ...	1	2	3	34
PP6	Organizing Subject Matter and Learning Activities	1	2	3	35
PP7	Coping with Problems of Group Dynamics	1	2	3	36
PP8	Planning and Implementing Evaluation	1	2	3	37
HE1	Professionalism	1	2	3	38
IN1	Microcounseling Approach	1	2	3	39

					Do not write in this space
1N2	You and the Helping Process ..	1	2	3	40
1N3	Attending Behavior and Beginning the Interview	1	2	3	41
1N4	Paraphrase and Summary of Content	1	2	3	42
1N5	Reflection and Summary of Feeling	1	2	3	43
1N6	Structuring the Interview	1	2	3	44
1N7	Writing Case Records	1	2	3	45
	Microcomputer Mod. 1 The Interview	1	2	3	46
	Microcomputer Mod. 2 Affective Domain	1	2	3	47

2. Which of the following were most valuable to you in learning the content of this course?

		Yes	Somewhat	Not at All	
PP1	Community Family Life Education	1	2	3	48
PP2	Getting Acquainted With the Adult Learner	1	2	3	49
PP3	The Program Planning Process .	1	2	3	50
PP4	Assessing Community Characteristics	1	2	3	51
PP5	Writing Program Objectives ...	1	2	3	52
PP6	Organizing Subject Matter and Learning Activities	1	2	3	53
PP7	Coping with Problems of Group Dynamics	1	2	3	54
PP8	Planning and Implementing Evaluation	1	2	3	55
HE1	Professionalism	1	2	3	56
1N1	Microcounseling Approach	1	2	3	57
1N2	You and the Helping Process ..	1	2	3	58
1N3	Attending Behavior and Beginning the Interview	1	2	3	59
1N4	Paraphrase and Summary of Content	1	2	3	60
1N5	Reflection and Summary of Feeling	1	2	3	61
1N6	Structuring the Interview	1	2	3	62
1N7	Writing Case Records	1	2	3	63

				Do not write in this space
Microcomputer Mod. 1 The Interview	1	2	3	$\overline{64}$
Microcomputer Mod. 2 Affective Domain	1	2	3	$\overline{65}$

THANK YOU for your assistance.

$\frac{1}{80}$

APPENDIX 15

FOODS AND NUTRITION 325/326

INFORMATION FORM 1979

Your participation is voluntary and WILL NOT reflect on your grading.

Please fill in this form and hand it in on Wednesday, September 12.

Please answer by circling the appropriate number to the right of each response where there is a number provided, and/or by writing in your own response when requested or when no number is available.

Do not write
in this space

$\frac{2}{1}$ $\frac{2}{2}$

A. I.D. Number ______ $\overline{3}\ \overline{4}\ \overline{5}\ \overline{6}\ \overline{7}\ \overline{8}$

2. Faculty $\overline{9}$

Arts	1
Education	2
Home Economics	3
Nursing	4
Pharmacy	5
Physical Education and Recreation	6
Science	7
Graduate Studies	8
Other (specify) ______________________	9

3. Major areas of study $\overline{10}$

Education Home Ec.	1
Ed. Elementary	2
Home Ec. Clothing and Textiles	3
Home Ec. Family Studies	4
Home Ec. Foods and Nutrition	5
Other (specify) ______________________	6

4. Year of Program $\overline{11}$

First	1
Second	2
Third	3
Fourth	4
Fifth	5
Sixth	6
Graduate	7

Do not write
in this space

5. Type of Program 12
   1st Bachelor Degree 1
   2nd Bachelor Degree 2
   Graduate Program 3
   Special Student 4
   Other (Specify)
   ____ 5

6. Please give the number of 3 credit and 6 credit courses you have completed and your grade point average to the nearest whole number. For example, if you completed 10 - 3 credit courses in 1977-78 with a grade point average of 5, 2 - 3 credit courses in summer 1978 with a grade point average of 6 and then 10 - 3 credit courses in 1978-79 with a grade point average of 7; the total number half courses would be 22 and the grade point average would be 6. $\frac{5+6+7}{3}$

   Number of 3 credit courses completed to date .... __.__ 13 14
   Number of 6 credit courses completed to date .... __.__ 15 16
   Grade point average to nearest whole number .... __.__ 17

7. Have you taken or are you taking any of the following Chemistry courses? Please give the University, the year you took or are taking the Chemistry course(s) and your final grade score if you have completed it.

   Chemistry 200 .... or equivalent course(s)
   No 1 18
   Yes 2
   University of ______________ 19
   Year of Program ...._____ 20 21
   Final Grade .... __ 22

   Chemistry 250 .... or equivalent course(s)
   No 1 23
   Yes 2
   University of ______________ 24
   Year of Program ...._____ 25 26
   Final Grade .... __ 27

8. Have you taken or are you taking any of the following Physiology courses? Please give the University, the year you took or are taking the Chemistry course(s) and your final grade score if you have completed it.

Do not write
in this space

Physiology 260 ... No 1 28
Yes 2
University of ______________ 29
Year of Program ....____ 30 31
Final Grade .... __ 32

Physiology 261 ... No 1 33
Yes 2
University of ______________ 34
Year of Program ....____ 35 36
Final Grade .... __ 37

Physiology 262 ... No 1 38
Yes 2
University of ______________ 39
Year of Program ....____ 40 41
Final Grade .... __ 42

Others .... Name ______________________ 43
University ________________ 44
Year .... _____ 45 46
Final Grade .... __ 47

Name ______________________ 48
University ________________ 49
Year .... _____ 50 51
Final Grade .... __ 52

9. Have you taken a course using learning modules before?

No 1 53
Yes 5

If yes, please give course title______________________ 54
1=comment

____

10. If yes, was it at the university level?

No 1 55
Yes 5

11. If yes, were you satisfied with the modular teaching/learning method?

No 1 56
Yes 5

__

Do not write
in this space

Explain: ______________________________ 57
1=comment

____

APPENDIX 16

FOODS AND NUTRITION 325/326

INFORMATION FORM 1980

Your participation is voluntary and WILL NOT reflect on your grading.

Please fill in this form and hand it in on Monday, September 15.

Please answer by circling the appropriate number to the right of each response where there is a number provided, and/or by writing in your own response when requested or when no number is available.

Do not write
in this space

$\frac{2}{\overline{1}}$ $\frac{2}{\overline{2}}$

A. I.D. Number _____ $\overline{3}\ \overline{4}\ \overline{5}\ \overline{6}\ \overline{7}\ \overline{8}$

2. Faculty $\overline{9}$

Arts	1
Education	2
Home Economics	3
Nursing	4
Pharmacy	5
Physical Education and Recreation	6
Science	7
Graduate Studies	8
Other (specify) ________________________	9

3. Major areas of study $\overline{10}$

Education Home Ec.	1
Ed. Elementary	2
Home Ec. Clothing and Textiles	3
Home Ec. Family Studies	4
Home Ec. Foods and Nutrition	5
Other (specify) ________________________	6

4. Year of Program $\overline{11}$

First	1
Second	2
Third	3
Fourth	4
Fifth	5
Sixth	6
Graduate	7

Do not write
in this space

5. Type of Program 12
   1st Bachelor Degree 1
   2nd Bachelor Degree 2
   Graduate Program 3
   Special Student 4
   Other (Specify)
   ____ 5

6. Academic background 13

   Please indicate your grade point average, to date, by circling the most appropriate corresponding number.

   Grade point average of 1 1
   Grade point average of 1.5 2
   Grade point average of 2 3
   Grade point average of 2.5 4
   Grade point average of 3 5
   Grade point average of 3.5 6
   Grade point average of 4 7
   Grade point average of 4.5 8
   Grade point average of 5 9
   Grade point average of 5.5 10
   Grade point average of 6 11
   Grade point average of 6.5 12
   Grade point average of 7 13
   Grade point average of 7.5 14
   Grade point average of 8 15
   Grade point average of 8.5 16
   Grade point average of 9 17

7. Have you or are you taking any of the following Chemistry courses? Please give the University, the year you took or are taking the Chemistry course(s) and your final grade score if you have completed it.

Chemistry 200	No 1	14	
or equivalent	Yes 2		
course(s)	University of ____________	15	
	Year of Program .... ____	16	17
	Final Grade .... __	18	
Chemistry 250	No 1	19	
or equivalent	Yes 2		
course(s)	University of ____________	20	
	Year of Program .... __	21	22
	Final Grade .... __	23	

Do not write
in this space

8. Have you taken or are you taking any of the following Physiology courses? Please give the University, the year you took or are taking the Physiology course(s) and your final grade score if you have completed it.

Physiology 260 ... No 1 24
Yes 2
University of ______________ 25
Year of Program .... __ 26 27
Final Grade .... __ 28

Physiology 261 ... No 1 29
Yes 2
University of ______________ 30
Year of Program .... __ 31 32
Final Grade .... __ 33

Physiology 262 ... No 1 34
Yes 2
University of ______________ 35
Year of Program .... __ 36 37
Final Grade .... __ 38

Others .... Name ____________________ 39
University ________________ 40
Year .... 19 __ 41 42
Final Grade .... __ 43

Name ____________________ 44
University ________________ 45
Year .... 19 __ 46 47
Final Grade .... __ 48

9. Have you taken a course using learning modules before?

No 1 49
Yes 5

If yes, please give course title____________________ 50
1=comment

____

10. If yes, was it at the university level?

No 1 51
Yes 2

Do not write
in this space

11. If yes, were you satisfied with the modular teaching/learning method?

No .... 1 — 52
[✓ Yes .... 2]

Explain: ________________________________ — 53
1=comment

____

1
80

APPENDIX 17

FOODS AND NUTRITION 325/326

STUDENT QUESTIONNAIRE 1979

We would appreciate your help in completing the following questionnaire. We are interested in obtaining student input as to the value and learning effectiveness of the modules and the Plato programme. Your evaluation and comments will offer direction for future years.

When the questionnaire is completed please hand it in to Dr. Donald or Mrs. Onderka. This information will NOT be used in determining your final grade score but rather to help improve the effectiveness of the course. Thank you for your assistance.

Please read each item and circle the number that is most appropriate for your response. Please make any comments in the spaces provided.

BACKGROUND INFORMATION

		Do not write in this space
1. Faculty		2/1 2/2
Arts	1	
Education	2	
Home Economics	3	
Nursing	4	
Pharmacy	5	
Physical Education and Recreation	6	
Science	7	
Graduate Studies	8	
Other (specify) ________________	9	
2. Major ares of study		4
Education Home Ec.	1	
Ed. Elementary	2	
Home Ec. Clothing and Textiles	3	
Home Ec. Family Studies	4	
Home Ec. Foods and Nutrition	5	
Other (specify) ________________	6	
3. Year of Program		5
First	1	
Second	2	
Third	3	
Fourth	4	
Fifth	5	
Sixth	6	
Graduate	7	

Course Information

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Do not write in this space
1. The use of modules in this course allowed me to increase my competencies according to my own needs.	1	2	3	4	5	6
2. The use of modules in this course was an effective teaching/learning method.	1	2	3	4	5	7
3. The use of modules in this course was an efficient teaching/learning method.	1	2	3	4	5	8
4. The use of modules in this course was an appropriate teaching/learning method.	1	2	3	4	5	9
5. Resource persons were readily available for consultation when doing the modules.	1	2	3	4	5	10

Comments: ________________________________

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	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Do not write in this space
6. Resource materials were readily available when doing the modules.	1	2	3	4	5	T1

Comments: ______________________________

____

____

7. Did the modules provided a background or foundation for the subjects introduced later in the course? Circle the appropriate number for your response and comment in the space provided.

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Not Applicable	
a) Module 2: Chemistry Concepts	1	2	3	4	5	6	T2

Comments: ______________________________ T3 1=comment

____

b) Module 3: Cell Physiology	1	2	3	4	5	6	T4

Comments: ______________________________ T5 1=comment

____

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Not Applicable	Do not write in this space
c) Module 4: Digestion and Absorption	1	2	3	4	5	6	$\overline{16}$

Comments: ______________________ $\overline{17}$ 1=comment

____

____

8. Students who used the PLATO programme please complete question 8. Other students continue with Question 9.

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Not Applicable	Do not write in this space
a) PLATO allowed me set my own pace for learning.	1	2	3	4	5	6	$\overline{18}$
b) The use of PLATO was appropriate for this course.	1	2	3	4	5	6	$\overline{19}$
c) PLATO was a valuaable experience.	1	2	3	4	5	6	$\overline{20}$

9. Are there other topics that you would like to see developed in the modular teaching/learning method?

Yes .... 1 $\overline{21}$

No 2

Comments: ______________________ $\overline{22}$ 1=comment

____

____

$\frac{1}{80}$

APPENDIX 18

FOODS AND NUTRITION 325/326

PLATO EVALUATION

After you have completed the PLATO program please complete this evaluation and place it in the appropriate box. This information will NOT influence your final grade score but rather help determine the effectiveness of PLATO. Thank you for your assistance.

Please read each item and circle the number that is most appropriate for your response. Please make any comments in the spaces provided.

Do not write
in this space

I.D. NUMBER ______________________ $\frac{3}{1}$ $\frac{0}{2}$

$\overline{3}$ $\overline{4}$ $\overline{5}$ $\overline{6}$ $\overline{7}$ $\overline{8}$

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	
	1	2	3	4	5	
1. The terminals were easy to locate.	1	2	3	4	5	$\overline{9}$
2. The room location was suitable.	1	2	3	4	5	$\overline{10}$
3. Instructions for "signing on" to the computer were explicit.	1	2	3	4	5	$\overline{11}$
4. After signing on, the instructions given in the program were explicit.	1	2	3	4	5	$\overline{12}$
5. The Plato program "The Human Digestive System" was an appropriate learning activity for Module 4, Digestion and Absorption.	1	2	3	4	5	$\overline{13}$

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Do not write in this space
6. The Plato program enabled me to meet the learning objectives for Module 4, Digestion and Absorption.	1	2	3	4	5	T4
	1	2	3	4	5	
7. The program was an appropriate length.	1	2	3	4	5	T5
8. The program was stimulating.	1	2	3	4	5	T6
9. The resource person was easily accessible.	1	2	3	4	5	T7
10. I would like to do additional computer assisted instruction.	1	2	3	4	5	T8
11. Comments:						T9 1=comment

APPENDIX 19

FOODS AND NUTRITION 325/326

RESOURCE PERSON QUESTIONNAIRE

Please hand in this questionnaire to M. Doherty as soon as possible.

The information you provide will be kept confidential and used to further the course. Thank you for your time and energy.

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Do not write in this space 2/1 5/2
1. The use of modules in this course allowed students to meet competencies according to their needs.	1	2	3	4	5	3
2. The use of modules in this course was an effective teaching/learning method.	1	2	3	4	5	4
3. The use of modules in this course was an efficient teaching/learning method.	1	2	3	4	5	5
4. The use of modules in this course was an appropriate teaching/learning method.	1	2	3	4	5	6
5. Resource persons were readily available for consultation when doing the modules.	1	2	3	4	5	7

Comments: ______________________________

____

____

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Do not write in this space
6. Resource materials were readily available when doing the modules.	1	2	3	4	5	8

Comments:

7. Did the modules provide a background or foundation for the subjects introduced later in the course? Circle the appropriate number for your response and comment in the space provided.

a) Module 2: CHEMISTRY CONCEPTS 9

Strongly Agree 1
Agree 2
Somewhat 3
Disagree 4
Strongly Disagree 5
N/A (did not complete) 6

Comments: 10
1=Comment

b) Module 3: CELL PHYSIOLOGY 11

Strongly Agree 1
Agree 2
Somewhat 3
Disagree 4
Strongly Disagree 5
N/A (did not complete) 6

Comments: 12
1=Comment

Do not write
in this space

c) Module 4: DIGESTION AND ABSORPTION 13

Strongly Agree	1
Agree	2
Somewhat	3
Disagree	4
Strongly Disagree	5
N/A (did not complete)	6

Comments: ______________________________ 14

APPENDIX 20

FOODS AND NUTRITION 325/326

PROFESSOR QUESTIONNAIRE

Please hand in this questionnaire to M. Doherty as soon as possible.

The information you provide will be kept confidential and used to further the course. Thank you for your time and energy.

Do not write in this space

$\frac{2}{1}$ $\frac{5}{2}$

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	
1. The use of modules in this course allowed students to meet competencies according to their needs.	1	2	3	4	5	$\overline{3}$
2. The use of modules in this course was an effective teaching/learning method.	1	2	3	4	5	$\overline{4}$
3. The use of modules in this course was an efficient teaching/learning method.	1	2	3	4	5	$\overline{5}$
4. The use of modules in this course was an appropriate teaching/learning method.	1	2	3	4	5	$\overline{6}$
5. Resource persons were readily available for consultation when doing the modules.	1	2	3	4	5	$\overline{7}$

Comments: ______________________________

____

____

	Strongly Agree	Agree	Uncer-tain	Dis-agree	Strongly Dis-agree	Do not write in this space
6. Resource materials were readily available when doing the modules.	1	2	3	4	5	8

Comments:

7. Did the modules provide a background or foundation for the subjects introduced later in the course? Circle the appropriate number for your response and comment in the space provided.

a) Module 2: CHEMISTRY CONCEPTS 9

Strongly Agree	1
Agree	2
Somewhat	3
Disagree	4
Strongly Disagree	5
N/A (did not complete)	6

Comments: 10
1=Comment

b) Module 3: CELL PHYSIOLOGY 11

Strongly Agree	1
Agree	2
Somewhat	3
Disagree	4
Strongly Disagree	5
N/A (did not complete)	6

Comments: 12
1=Comment

Do not write
in this space

c) Module 3: DIGESTION AND ABSORPTION 13

Strongly Agree 1
Agree 2
Somewhat 3
Disagree 4
Strongly Disagree 5
N/A (did not complete) 6

Comments: ____________________________ $\overline{14}$
1=Comment

____

8. PLATO allowed students to set their own pace for learning. 1 2 3 4 5 $\overline{15}$

9. The use of PLATO was appropriate for this course. 1 2 3 4 5 $\overline{16}$

10. PLATO was a valuable experience for the students. 1 2 3 4 5 $\overline{17}$

11. How would you rate the amount of time for student interaction in the module - CML combination method of teaching/learning compared to the previous lecture/laboratory method of teaching/learning?

$\overline{18}$

CML/module combination less than
lecture/laboratory 1
CML/module combination about the
same as lecture/laboratory 2
CML/module combination more than
lecture/laboratory 3

12. How would you rate the use of time for student interaction in the module - CML combination method of teaching/learning as compared to the previous lecture/laboratory method of teaching/learning?

$\overline{19}$

CML/module combination less effective use
of time than lecture laboratory 1
CML/module combination about as effective
use of time as lecture/laboratory 2
CML/moeule combination more effective use
of time than lecture/laboratory 3

Do not write
in this space

13. Are there other topics that you would like to see developed in the modular teaching/learning method?

____________________ ____________________

____________________ ____________________

____________________ ____________________

Comments: ______________________________________

____

____

$\overline{20}$
1=comment

$\overline{21}$
1=comment

$\overline{22}$
1=comment

$\overline{23}$
1=comment

$\frac{1}{80}$

APPENDIX 21

FOODS AND NUTRITION 325/326

STUDENT QUESTIONNAIRE 1979

We would appreciate your help in completing the following questionnaire. We are interested in obtaining student input as to the value and learning effectiveness of the modules and the Plato programme. Your evaluation and comments will offer direction for future years.

When the questionnaire is completed please hand it in to Dr. Donald, Mrs. Bosse or Mrs. Ng by Friday, December 7th. This information will NOT be used in determining your final grade score but rather to help improve the effectiveness of the course. Thank you for your assistance.

Please read each item and circle the number that is most appropriate for your response. Please make any comments in the spaces provided.

BACKGROUND INFORMATION

Do not write in this space

$\frac{2}{1}$ $\frac{6}{2}$

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	
1. The use of modules in this course allowed me to increase my competencies according to my own needs.	1	2	3	4	5	3
2. The use of modules in this course was an effective teaching/learning method.	1	2	3	4	5	4
3. The use of modules in this course was an efficient teaching/learning method.	1	2	3	4	5	5
4. The use of modules in this course was an appropriate teaching/learning method.	1	2	3	4	5	6
5. Resource persons were readily available for consultation when doing the modules.	1	2	3	4	5	7

Comments: ______________________________

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Do not write in this space
6. Resource materials were readily available when doing the modules.	1	2	3	4	5	8

Comments: ______________________________

____

____

7. Did the modules provided a background or foundation for the subjects introduced later in the course? Circle the appropriate number for your response and comment in the space provided.

a) Module 2: CHEMISTRY CONCEPTS 9

Strongly Agree 1
Agree 2
Somewhat 3
Disagree 4
Strongly Disagree 5
N/A (did not complete) 6

Comments: ______________________________ $\overline{10}$
1=Comment

____

b) Module 3: CELL PHYSIOLOGY 11

Strongly Agree 1
Agree 2
Somewhat 3
Disagree 4
Strongly Disagree 5
N/A (did not complete) 6

Comments: ______________________________ $\overline{12}$
1=Comment

____

Do not write
in this space

c) Module 4: DIGESTION AND ABSORPTION 13

Strongly Agree 1
Agree 2
Somewhat 3
Disagree 4
Strongly Disagree 5
N/A (did not complete) 6

Comments: ______________________ 14
______________________ 1=Comment

Students who used the PLATO programme please complete question 8 - 10. Other students continue with Question 11.

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Not Applicable	
8-10. PLATO allowed me set my own pace for learning.	1	2	3	4	5		15
9. The use of PLATO was appropriate for this course.	1	2	3	4	5		16
10. PLATO was a valuaable experience.	1	2	3	4	5		17

11. Are there other topics that you would like to see developed in the modular teaching/learning method? 18
1=Comment

______________ ______________ 19
1=Comment
______________ ______________
______________ ______________ 20
1=Other Comments

Comments: ______________________ 21
1=Comment
____
____

APPENDIX 22

FOODS AND NUTRITION 325/326

STUDENT QUESTIONNAIRE 1979

We would appreciate your help in completing the following questionnaire. We are interested in obtaining student input as to the value and learning effectiveness of the modules and the Plato programme. Your evaluation and comments will offer direction for future years.

When the questionnaire is completed please hand it in to Dr. Donald or Mrs. Onderka. This information will NOT be used in determining your final grade score but rather to help improve the effectiveness of the course. Thank you for your assistance.

Please read each item and circle the number that is most appropriate for your response. Please make any comments in the spaces provided.

BACKGROUND INFORMATION

Do not write
in this space

1. Faculty

2 6
1 2

Arts 1
Education 2
Home Economics 3
Nursing 4
Pharmacy 5
Physical Education and Recreation 6
Science 7
Graduate Studies 8
Other (specify)
______________________________________ 9

2. Major ares of study

4

Education Home Ec. 1
Ed. Elementary 2
Home Ec. Clothing and Textiles 3
Home Ec. Family Studies 4
Home Ec. Foods and Nutrition 5
Other (specify)
____ 6

3. Year of Program

5

First 1
Second 2
Third 3
Fourth 4
Fifth 5
Sixth 6
Graduate 7

Course Information	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Do not write in this space
1. The use of modules in this course allowed me to increase my competencies according to my own needs.	1	2	3	4	5	6
2. The use of modules in this course was an effective teaching/learning method.	1	2	3	4	5	7
3. The use of modules in this course was an efficient teaching/learning method.	1	2	3	4	5	8
4. The use of modules in this course was an appropriate teaching/learning method.	1	2	3	4	5	9
5. Resource persons were readily available for consultation when doing the modules.	1	2	3	4	5	10

Comments: ______________________________

____

____

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Do not write in this space
6. Resource materials were readily available when doing the modules.	1	2	3	4	5	T1

Comments: ______________________________

____

____

7. Did the modules provided a background or foundation for the subjects introduced later in the course? Circle the appropriate number for your response and comment in the space provided.

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Not Applicable	
a) Module 2: Chemistry Concepts	1	2	3	4	5	6	T2
Comments: ______________________________							T3 1=comment
b) Module 3: Cell Physiology	1	2	3	4	5	6	T4
Comments: ______________________________							T5 1=comment

____

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Not Applicable	Do not write in this space
c) Module 4: Digestion and Absorption	1	2	3	4	5	6	16

Comments: ____________________ 17 1=comment

____

____

8. Students who used the PLATO programme please complete question 8. Other students continue with Question 9.

a) PLATO allowed me set my own pace for learning.	1	2	3	4	5	6	18
b) The use of PLATO was appropriate for this course.	1	2	3	4	5	6	19
c) PLATO was a valuaable experience.	1	2	3	4	5	6	20

9. Are there other topics that you would like to see developed in the modular teaching/learning method?

Yes 1 21

No 2

Comments: ____________________ 22 1=comment

____

____

1

80

APPENDIX B

PERSONAL ACCOUNT

PERSONAL ACCOUNT

The following discussion is a report of my growth as an evaluator as it was controlled and influenced by the evaluator role I played in assessing the innovative project, The Development of Demonstration Learning Systems for Home Economics Programs, in the Faculty of Home Economics. The time covered in this discussion is approximately two years, from March 1979 to March, 1981. The discussion begins with a brief account of my background and an explanation of how I became the evaluator for the innovative project. Following this, some of the more influential experiences I participated in are described. The discussion concludes with my understanding of myself as an evaluator. I am hopeful that this personal account of my growth as an evaluator will serve as enlightment for others who are considering the evaluator role. Granted, the process is not identical for everyone. It depends, to a great degree, on the entry characteristics a person has when he/she initially enters into the process. Thus, I begin with a description of my entry characteristics.

I was commissioned as the evaluator of the innovative project in March 1979. Previously I had been employed as a curricular associate working with the Family Studies Division. Among other duties, my responsibilities were to conduct a needs assessment and to develop materials for the teaching/learning system in Family Studies 444. In March, the project leaders were faced with the issue of evaluating the innovative project. I had always been interested in evaluation and the opportunity to evaluate the innovative project was a direction I wanted to pursue. My search for a program of studies in evaluation took me to the doctoral program in Educational Administration in the Faculty of Education. I developed an appropriate program of studies, with the help of an advisor, that would allow me to conduct the evaluation of the innovative project as a part of my program of studies. With this information, I returned to the project leaders and discussed the possibility of commissioning me for the evaluation of the innovative project. This was an exceptable alternative to them especially since a competent evaluator, my advisor, would be available for consultation. Thus, it was agreed in March, 1979 that I would be the evaluator of the innovative project.

I spent the next few months reading and digesting the overwhelming amount of information that had been published in the evaluation area. During this review of the literature I reminded myself continually to be sensitive to the project leaders' expectations and standards and also to the funding agency's (Alberta Advanced Education and Manpower) expectations and standards. After I had completed reviewing the literature I looked for some direction in making order out of the chaos that resulted from the diversity and immensity of information in the area of evaluation. The Stake (1967) Model of evaluation provided me with this organizational structure. Furthermore, the model could incorporate the expectations and standards of both the project leaders and the funding agency.

Having chosen the Stake (1967) Model for organizing the evaluation, the next step for me was to develop an evaluation design for the Learning Systems Project. This task was very exciting and challenging. I enjoyed identifying data sources and procedures for collecting the data. I worked in close consultation with the project leaders, my advisor and a representative from the funding agency. After the evaluation designs had been approved, I worked on developing the necessary instruments. It was during this step that I became aware of how ambitious the evaluation design was that had been developed. However by September, 1979 the formative evaluation of the innovative project was ready to be implemented.

September, 1979 to December, 1979 was another exciting step in the evaluation for me. The instruments were being returned and the data file was expanding. In January, 1980 I started the data analysis and began interpreting the results. It was at this time that I became dissatisfied with the methodology that had been previously planned for the evaluation. I wanted to be able to discuss with the students, among other items, what the Likert ratings actually meant to them. In Aoki's framework, I craved for a better balance between the empirical-analytic and situational-interpretive paradigms. The overwhelming emphasis from the empirical-analytic paradigm was unsettling.

My advisor, aware of my situation and feelings at this time, suggested that I enrol in Curriculum and Instruction 549 that was being taught by Dr. Aoki. I enrolled in the course and became exposed to an evaluation framework that I had not previously encountered. The framework fascinated and appealed to me. It made sense to me that the frame of reference or orientation of an evaluator controls the evaluation. That is, the paradigm from which the evaluator comes from, determines the selection of data sources, the methodology for collecting data and the reporting procedures in an evaluation. The three paradigms that were included in the framework were the empirical-analytic, situational-interpretive and critical-theoretic. It was very evident that I was coming to the evaluation of the innovative project from an overwhelming empirical-analytic framework and I was not pleased with this because I wanted the evalution to go beyond an ends-means interpretation.

So for the second time my role as evaluator of the innovative project led me to further reading. This time the reading was in the areas of reseach methodology and critical inquiry. My reading reinforced my ideas about the lack of emphasis of the situational-interpretive paradigm. In addition, I became aware of the benefits that a critical-theoretic orientation could contribute to the evaluation. However, I opted to continue with the existing methodology in the innovative project because: the methodology had been negotiated and agreed upon by the stakeholders, I was the only available human resource for the evaluation, there was a limited amount of time and I wanted to have some consistent basis for comparing the 1979 and 1980 evaluations that I could interpret. Instead I did a mini-evaluation of the innovative project from the critical-theoretic paradigm in the form of paper for Curriculum and Instruction 549.

In September 1980 I implemented the summative evaluation of the innovative project as it had been planned in the spring of 1979 with very few revisions. During this time, I sought to further my understanding of the situational-interpretive paradigm by concentrating on reading in qualitative methods of research. At the Evaluation Network Conference in

Memphis in October I participated in a qualitative methods workshop given by M.Q. Patton.

In January, 1981 I started the data analysis from the summative evalution, began interpreting the results and comparing these results with the 1979 results. I was reminded of the strong ends-means interpretation of the evaluation and the lack of the situational-interpretive and critical-theoretic orientations.

In summary, in my opinion, the evaluation that I conducted for the innovative project did provide pertinent information for revising the innovative teaching/learning systems and related materials that had been developed for the selected courses included in the innovative project. However, this personal account of my role as evaluator, which I view as part of the mini-meta-evaluation, has identified limitations in the evaluation. Having had the opportunity to identify and describe these limitations under the guidance of informed and concerned advisors leads me to view myself as a more effective evaluator. I have extended my resources that I am able to draw on when considering evaluation studies. Presently, I am extending my pursuit of the critical-theoretic paradigm which will further extend my evaluation resources.